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ABSTRACT

Intended for use by teachers in elementary and junior high schools, this guide, which is part of a series on career education in transportation, presents an orientation program for existing and emerging careers in the field of transportation. Chapter I gives an introduction to career education and its four phases: career awareness, career orientation, career exploration, and career preparation. Chapter II stresses the use of resource materials for occupational information on careers in transportation. Chapter III explains the roles of the following participants in a career orientation program: the career orientation teacher, student, parent, administrator, counselor, academic teacher, vocational education teacher, librarian, and industry personnel. Chapter IV outlines the three units that compose the program plan (student activities for these three areas are published in a separate student manual, CE 013 878): (1) clarification of individual self concepts; (2) development of an appreciation for the dignity and worth inherent in work and the value of each individual's contribution to the world of work; and (3) a transitional, unstructured exercise in which the student chooses a transportation-oriented career and maps out his expectations as preparation for the next step in career education, the exploration phase. For units 1 and 2, rationales, objectives, suggested learning activities, and resources are included. Chapter V contains an exhaustive bibliography of resource materials available on transportation, listing books, journals, government publications and films. (EL G)

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ED159306

ORIENTATION
TO
CAREERS IN TRANSPORTATION

TEACHERS GUIDE

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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PREFACE

Increased public demand for more and better transportation has resulted in an increased demand for workers with more and better training. Recognizing the need for school curricula directed toward preparing young people for these opportunities, this guide presents a program for orientation to existing and emerging careers in the field of transportation. The program is designed for use in elementary and junior high schools but its use elsewhere is to be encouraged as well. This guide is intended primarily for the teacher who is responsible for the transportation career orientation program. It has been reviewed by professionals from the transportation industry, from career education and from transportation education; people who sincerely believe that career orientation is important for young people. The material presented is factual, accurate and reflects the most up-to-date thinking in both transportation and career education.

The modus operandi used in the production of this teachers guide to career orientation is different from that used in producing the other guides in this series (those for career exploration and career preparation). This guide was written, in-house, by the project staff. This approach was taken in order to assess the two methods of production with respect to their effectiveness.

We have tried to anticipate the needs and problems in implementing an innovative program of this kind. There is probably no doubt that we have fallen short. But, fortunately, there is one factor in the American classroom that can usually succeed in the most difficult of conditions; that factor is YOU, the teacher, a guide and helper who is actually there with the students. In implementing this program you will share in the career orientation process with your students. Ultimately, their success will be your success.

While this guide represents considerable hours of effort and years of experience by dedicated persons in career education and the transportation industry, not every bit of information nor every paragraph of advice is intended to be accepted on faith. It is, by design, a GUIDE to be used and supplemented by local inputs to satisfy local educational requirements. Attempts have been made in compiling this guide to anticipate the needs and problems of the school administrator who will decide to adopt the program, the teacher who will implement and operate it and the other school people who will serve the program as support personnel. Success of the program will depend upon these people doing their jobs and will be measured by the success of the students being oriented to careers in transportation.

Edwin T. Petrie
Project Director

TABLE OF CONTENTS

Preface iii

I INTRODUCTION TO CAREER EDUCATION 1

The Need for Career Education 2
Goals of Career Education 2
Career Education as a Comprehensive
Educational Program 3
Career Awareness 4
Career Orientation 5
Career Exploration 6
Career Preparation 8
Summary 8

II INTRODUCTION TO TRANSPORTATION 10

III THE PROGRAM PARTICIPANTS AND THEIR ROLES 13

The Career Orientation Teacher 14
The Student 15
The Parent 17
The Administrator 18
The Counselor 19
The Academic Teacher 20
The Vocational and Practical Arts Teacher 20
The Librarian 21
Other School Staff 21
Industry People 21

IV THE PROGRAM PLAN 24

Introduction 24
Transportation Career Orientation Flow Chart 26
Phase I 27
Phase II 31
Phases III and IV 34
Phase V 38
References 42

V GENERAL RESOURCES 44

Books, Book Lists and Pamphlets 44
Films and Filmstrips 55
Periodicals 63

I

INTRODUCTION TO CAREER EDUCATION

Career Education refers to education that is designed to provide experiences to help individuals prepare for, enter, become established and advance in, a self-satisfying and productive career. It encompasses those educational experiences which, beginning in early childhood, develop the skills, attitudes and understanding necessary to successful career selection, assimilation and retention.

Dr. S. P. Marland, Jr., Commissioner of the U. S. Office of Education, has observed that: "Educators must be bent on preparing students either to become properly and usefully employed immediately upon graduation from high school or to go on to further formal education. The student should be equipped occupationally, academically, and emotionally to spin off from the system at whatever point he chooses — whether at age 16 as a craftsman apprentice, or age 30 as a surgeon, or age 60 as a newly trained practical nurse," (DHEW, OE-72-39, 1971, p.3)

In citing the need for career education, Commissioner Marland has referred to it as eliminating the "artificial separation between things academic and things vocational." (Marland, 1971)

It is the fusing of academic, vocational and avocational experiences in a manner which will enable the individual to identify, define and realize personal, social and career related goals.

The Need for Career Education

The United States Office of Education has pointed out that "it is a rare high school that equips all of its students to make the choice upon graduation of entering the job market with a saleable skill or of continuing their education. Too often the graduate has neither option, let alone the opportunity to select one or the other. Nearly 2.5 million students leave the formal education system of the United States each year without adequate preparation for a career. In 1970, ... only about one high school student in six was enrolled in occupational education. More persons are graduating from a four-year college with a bachelor's degree than there are jobs for degree holders. By the end of this decade eight out of every ten jobs in America will not require a baccalaureate degree. More appropriate curriculums must be developed, validated, and installed, and they must be used more realistically if we are to meet the needs and desires of students and serve the purposes of society." (DHEW, OE-72-39, 1971, p.1)

Programs in career education offer a response to this challenge since the fundamental concept of career education is that all education and experiences — curriculum, instruction, counseling — should be geared for economic independence and an appreciation for the dignity of work.

Goals of Career Education

The following Career Education goals are excerpted from a working paper entitled *Career Education: Descriptions and Goals*, which was prepared by the U. S. Office of Education July 29, 1971.

1. To make all education subject matter more meaningful and relevant to the individual through restructuring and focusing it around a career development theme.

2. To provide all persons the guidance, counseling, and instruction needed to develop their self-awareness and self-direction; to expand their occupational awareness and aspirations; and to develop appropriate attitudes about the personal and social significance of work.

3. To assure the opportunity for all persons to gain an entry level marketable skill prior to their leaving shcool.

4. To prepare all persons completing secondary school with the knowledge and skills necessary to pursue further education or to become employed.

5. To provide services for placing every person in the next step in his development whether it be employment or further education.

6. To build into the educational system greater utilization and coordination of all community resources.

7. To increase the educational and occupational options available to all persons through a flexible educational system which facilitates entrance and reentry either into the world of work or the educational system.

Career Education as a Comprehensive Educational Program

Career education is a comprehensive educational program which begins in grade 1 or earlier and continues through the adult years. For elementary and secondary education, the program includes a restructuring of basic subjects, grades 1-12, around the theme of career development, including opportunities and requirements in the world of work. The basic academic subjects, such as mathematics, science, social studies and language arts become more relevant because the student is helped to see their relationship to future career goals. In the elementary school, students become aware of the wide range of jobs in our economy, and the associated societal roles. In junior high school students explore specific clusters of occupations through hands-on experiences and field observation, as well as classroom instruction. In senior high school, students prepare for job entry through classroom, laboratory and cooperative education activities or prepare for further education or both. Placement in a job or in further education are options open to all students. At the post-secondary and adult levels, opportunities are provided for entrance and exit at any level, at anytime, in the individual's career development.

Extensive guidance and counseling activities assist the student in developing self-awareness and in matching his interests and abilities against potential careers.

Viewed in this way career education may be described as consisting of four phases:

Phase I - Career Awareness

Phase II - Career Orientation

Phase III - Career Exploration

Phase IV - Career Preparation

Each of the four phases is described briefly below. The entire career education program is shown pictorially in the figure on the following page. Frequent reference to the figure will serve as an aid to understanding the text material.

Career Awareness

Career Awareness is that stage in the Career Education process at which the child is made aware of self, introduced to the world of work, encouraged to respect others and their contributions to the world of work and stimulated to correlate awareness of self to various occupational roles within the world of work. Career Awareness includes the following basic objectives.

The student will:

1. *Formulate generalizations toward developing a sound self concept.*

   By — beginning to consider the ways by which individuals can be described; defining self in terms of these special characteristics; differentiating from others; etc.

2. *Begin to examine the world of work.*

   By — formulating general definitions for work; examining a variety of individual occupational roles within the world of work, either vicariously or through some indirect or direct contact; viewing the relationships between interests and work; personal needs and work and leisure activities and work; etc.

3. *Develop a basic respect for others and their contributions to the world of work.*

   By — playing a variety of roles designed to encourage empathetic behavior; directing this empathy toward personal thoughts, feelings and activities,

especially those which are work-related; studying such basic concepts as goods, services, consumers and producers; understanding the basic importance of work in meeting the basic needs of society; etc.

4. Begin to correlate understanding of self with various occupational roles in order to initiate a motivation toward participation in the world of work.

By — "trying on" some of the various roles performed by persons engaged in work; considering the ways in which interests and abilities can be considered in determining desirable occupational roles; learning of the interrelationships of various occupations in terms of similarities of skills, functional roles, economic categorization; etc.

The Career Awareness phase is generally referred to as including grades K through 6. However, it should be noted that grade level designations are intended only to indicate the usual or desirable occurrence of each stage in a person's overall development. To provide for individual differences, grade level indications must not be interpreted as restrictive.

Career Orientation

Career Orientation is that stage of the Career Education process at which students clarify the concepts of self and the world of work and attempt to establish a relationship between the two. This attempt to orient self to the world of work (in terms of specific occupational alternatives) is most successfully accomplished through involvement with exploratory behavior in varying degrees. Career Orientation includes the following basic objectives.

The student will:

1. Clarify self concept.

By — developing an understanding of the need to begin planning; considering the role of work in individual personality development; evaluating work's role in satisfying physical and psychological needs; etc.

2. *Understand the structure of the American economic system and the interrelationships of its various sub-systems.*

By — understanding fundamental economic concepts and fundamental principles of the manpower market; considering the changing nature of the manpower market, the changing meaning of work, and the relationships of education and training to work; viewing the sub-systems of the American economy at work; etc.

3. *Relate self to the world of work.*

By — understanding the need to plan for participation in the world of work; considering such things as self interests, abilities, aptitudes and needs in relationship to available occupational information; developing individual inquiry and problem-solving skills; etc.

4. *Formulate a tentative plan.*

By — considering desirable occupational roles and requisite education and training; investigating availability of desirable employment and educational and training requisites; integrating various occupational, educational and training alternatives on the basis of desirability and availability; formulating a tentative career plan on the basis of all the above considerations, etc.

The Career Orientation phase generally refers to grades 7-8. The crucial point in the phase comes at the end of junior high school when the student is confronted with the necessity for making an important curriculum decision prior to entering high school.

Career Exploration

The Career Exploration phase of Career Education, characterized by trial and hypothesis testing behavior, is one in which students actively explore real occupational roles. Problem-solving skills are applied to relating the feasibility and appropriateness of self characteristics to the occupational roles being explored and acquiring knowledge of and considering alternate occupational and educational paths. Career Exploration includes the following basic objectives.

The student will:

1. *Exhibit problem-solving and decision-making skills.*

By — recognizing the future implications of various educational and occupational alternatives; exploring various occupational clusters, relating self concepts to groups of occupations and individual occupations via occupational information and first-hand experiences; etc.

2. *Explore various occupational roles.*

By — selecting specific desirable occupations for investigation; experiencing various aspects of specific occupations via simulation activities or direct contact; coping with work tasks and performing in a work situation in a manner reflective of an understanding of the constituent elements of work effectiveness; etc.

3. *Evaluate realities of educational-occupational preferences.*

By — realistically assessing personal (abilities, interests, etc.), social (race, religion,) factors which might affect career choice, successful assimilation and advancement potential; reformulating career plans, as well as requisite educational and training considerations; etc.

4. *Reformulate tentative career plan in light of exploratory experiences.*

By — understanding the increasingly critical nature of accurate planning; utilizing problem-solving skills acquired through exploratory behavior to reassess and restructure overall career plan (based upon desired and available educational and occupational alternatives); deciding upon a program of work or education beyond the exploratory phase; etc.

The Career Exploration phase is generally associated with grades 9-10. It is imperative that students be made aware of the increasing importance of planning and become directly involved with activities which will develop the skills and knowledge essential to successful planning.

Career Preparation

Career Preparation is the phase of Career Education during which students develop specific skills, technical knowledge, sound work habits and attitudes related directly to a specific occupation or family of occupations. These are developed through direct involvement in occupational experiences, either within the setting of the school or without. Career Preparation involves the following basis objectives.

The students will:

1. *Prepare to implement a chosen career plan.*

   By — searching occupational and educational information and determining appropriate educational and vocational objectives; engaging appropriate available experiences for skill and knowledge acquisition; completing appropriate curricular offerings available; etc.

2. *Obtain initial employment or enroll in appropriate requisite educational program(s).*

   By — determining specific occupation (or occupational family) for which employment and requisite education beyond high school (if any) is to be sought; applying, with assistance from guidance personnel, for appropriate educational or occupational opportunity; completing appropriate curriculum requirements prior to job or post high school educational assimilation; etc.

Career preparation may be secured through a number of differing approaches: high school cooperative programs, correspondence courses, adult education offerings, technical institutes, community and four-year college programs and post graduate university programs. This phase generally refers to the last two years of high school (grades 11-12) and beyond.

Summary

In summary, career education implies a comprehensive structuring of the entire school program around a career development theme. It begins with the development of self-concepts, desirable attitudes towards others and an understanding of and appreciation for work; progresses through orientation to the

world of work, exploration of and preparation for specific occupations; and culminates in attainment of specified occupational goals.

II

INTRODUCTION TO TRANSPORTATION

Basic to the U. S. Office of Education's approach to the development of career education curricula is the occupational cluster concept, whereby occupations are grouped together on the basis of a variety of criterion. Transportation is one of fifteen occupational clusters identified for Career Education curriculum development. Transportation careers could be organized in a variety of different ways: according to mode (air, sea, land and pipeline); on the basis of knowledge and skill requisites; on the basis of commonality of tasks performed; etc. The Transportation Curriculum Project has chosen to utilize the occupational grouping entitled *Intermodal Transportation Careers: A Guide for the Development of Educational Programs.*[1] This publication defines intermodal careers as those where requisite skills are not constrained to one mode or means of transportation, but where job families and a ladder of progression or promotion are built around common skills and knowledges applicable within various modes. Twelve occupational groups have been defined within the area of transportation careers. These are: Data Management Services, Distribution Services, Environmental Services, Maintenance Services, Management Services, Marketing Services, Passenger Services, Vehicle Operations Services, and Vehicle Supportive Services.

Thus, within the intermodal framework a career in Data Management Services as a computer operator might be located within any of the four modes — air, land, sea and pipeline — or include more than one of these modes of transportation, as in the case of a governmental employee concerned with the movement of goods via air, rail and truck from one destination to another.

A thorough analysis of career opportunities in transportation is available in the document *Intermodal Transportation Career Education, An Occupational Cluster Paradigm*,[2] which contains specific occupational information on hundreds of occupations within the aforementioned twelve intermodal occupational groups. This technical document has been designed as a resource publication for Orientation to, Exploration of and Preparation for careers in Transportation. It was compiled and edited by a staff of transportation and education experts, many of whom continue to serve consultative roles as members of the Transportation Curriculum Project's National Advisory Committee.

The information contained in this resource manual should be used in varying ways, depending upon each student's individual progress. Students who are involved in Orientation to Transportation careers will probably use the technical publication sparingly. As these students progress into Exploration of Transportation careers they will refer to this document first to gain enough background information in order to facilitate making a choice of specific occupational groups to be explored. After students have isolated several occupations or groups of occupations for Exploration, they will supplement in-depth experience-oriented Exploration with the occupational information contained within the technical document. Career Preparation students might use this technical information as a springboard to attaining further understanding of specific occupations via self-directed exploratory behavior.

The efficient utilization of available information is the shared responsibility of teacher and student. A wealth of resources exist. Identification and utilization of these should be fostered throughout the career education process. The remainder of this teacher's guide is aimed at promoting a marriage of appropriate career education objectives with available resources and suggesting means for achieving these objectives through sound use of as many resources as possible. Though documents such as aforementioned resource publications, the Dictionary of Occupational Titles, the Occupational Outlook Handbook, career guidance briefs and others reflect considerable effort and thought in the organizational schemes they propose, students should not be discouraged from developing their own organizational frameworks or fulfilling self-created objectives for Orientation, Exploration and Preparation.

Self initiative is just as vital to each separate phase of career planning as it is to the process as a whole. Therefore, students should be actively encouraged to question organizational schemes and restructure where appropriate. The framework presented

herein for career Orientation, Exploration and Preparation should be viewed more as a compass, pointing out direction, than as a map, defining specific routes. Finding the specific routes to Orientation, Exploration and Preparation should prove as rewarding to students as the end product of the search — specific knowledge about and contact with occupations or groups of occupations. The key ingredients to successful career education are: The development of satisfactory self-concepts and their thoughtful consideration in attempting to define appropriate avenues of investigation and conducting these investigations. Ideally, the exploratory behaviors exhibited by students in their investigation of the world of work and its component parts should be motivated by the desire to learn about themselves and the world of work and, eventually, to achieve successful relationships between the two.

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[1] *Intermodal Transportation Careers: A Guide for the Development of Educational Programs*, Division of Adult, Vocational and Technical Education, U. S. Office of Education, 1971.

[2] *Intermodal Transportation Career Education, An Occupational Cluster Paradigm*, Transportation Curriculum Project, Division of Vocational Education, Ohio Department of Education, 1972.

This technical publication is designed to be used as a resource and reference book in conjunction with this teacher's guide. Constant reference to it will be made in the following chapters.

III

THE PROGRAM PARTICIPANTS AND THEIR ROLES

John Dewey once said that "the inclination to learn from life itself... is the finest product of schooling." As the teacher of an orientation program in transportation careers you should be cognizant of the availability of a plethora of resources both within your school and within the community at large. These potential learning resources, which include the student, the school administration and faculty, persons from business and industry, labor and government representatives and the physical attributes of the community itself, should be continually explored and exploited.

Career education is largely an individually motivated and executed process. Because of this, your role will be primarily involved with coordinating the various resources necessary to the achievement of a successful orientation experience by the student. This chapter is designed to explicate some of the roles of resource persons who might be contacted by students in their career orientation program.

Most of these roles will be unfamiliar to the people who will assume them. Your job will be to see that they become familiar with the things you and the students will expect of them. The better each participant understands his role, the more smoothly your program will run.

The following descriptions are written in a general way. You may use them as they appear or revise them for adaptation to your local needs. One idea for informing participants would be to hand each a brief written description of his role at an initial meeting prior to the beginning of your program. This would provide advance information that may be reviewed immediately prior to actual student contact.

THE CAREER ORIENTATION TEACHER

As the teacher, you are the center of all career orientation activities. It is to you that the students will first look for assistance and guidance. This means that your own attitude will be crucial to the success of the program. Are you up to it? Question yourself..."How interested am I in the program? Am I willing to take on all the responsibilities? Am I enthusiastic about the program and what it can do for the students? Can I get the students to share with me in this enthusiasm and interest?

A number of research studies have shown that the best determinant of success in innovative educational programs is invariably teacher attitude. When the teacher is enthusiastic, the innovation works. When the teacher doesn't care, it fails.

The roles described below are meant as suggestions to aid you in conducting a successful program of career orientation in transportation. In implementing the program you will no doubt find many more roles to fill and perhaps you will find it necessary to alter some of these to adapt the program to your needs.

Director-Coordinator of Student Experiences

This is perhaps the most important role you will assume. Your students will need direction in initiating their orientation programs, as well as continuous guidance throughout the course of their efforts to clarify self concepts, identify and search occupational information, engage career-oriented activities and formulate the initial stages of a tentative career plan. Your role should be a catalytic one throughout, lending direction, assistance, reinforcement whenever needed by the individual student. Remember: direction should come from within the individual student, however, hou will fulfill an important function if you are able to empathize with his orientation experience and shed light upon that experience whenever it will facilitate his overall career development.

Supporter-Facilitator

Career orientation will provide your students with the opportunity to meet with some failures; things like films that don't arrive on time, canceled appointments and such other trivia that make life so interesting and frustrating. You should not attempt to place the blame for any failures on any student (no matter how richly it may be deserved). Rather, yourattitude should

be something like, "Well, that didn't work out. Do you have any other ideas? If not, why don't we try this..."Remember that one of the primary characteristics of a truly open orientation environment is that students are allowed to fail. Columbus sailed west to find China and never did. Was his exploration a failure?

Liaison

Successful career orientation depends upon communication with, and the cooperation of, parents, students, counselors, faculty, staff, administrators, business, industry and the community. Part of your role will be to coordinate the roles of these other people as well as to keep them informed as to what they need to do to insure the success of the program.

Evaluator

One continuing aspect of the program will be the measurement of its success. Are the activities and experiences leading to attainment of the objectives? Are some of the activities more effective or efficient than others? Are the goals of the program realistic and attainable? Whether evaluation is formal or informal, it is a necessity and this part of your role must be kept in mind.

THE STUDENT

The purpose of this program is, of course, to help orient students to themselves and the world of work. Entering students will obviously bring numerous varying outlooks on both of these to the program. Hopefully, exposure to career orientation will assist these students to develop more positive and knowledgeable outlooks on both themselves and the world of work. The development of these outlooks will be largely dependent upon these students' willingness to accept the following roles, as well as their diligence in fulfilling these roles. Your guidance and patience will be of vital importance in this process. Guidance in terms of providing direction and assistance and patience in terms of allowing students the flexibility to pursue this self determined direction, learning by doing, succeeding and failing.

The Active Learner

The active learner assumes a great deal of the responsibility for hiw own career orientation. He does not wait to be told exactly what to do and how to do it. He can take a few general directions and follow through on his own. He possesses at least the fundamental research skills (using the card catalog and Reader's Guide in the library, letter writing, telephoning, etc.). He recognizes that his success, partial success or failure depends primarily upon himself. You, as the teacher, should recognize that not all students will meet this ideal active learner's role, but you should encourage each student to assume it to the limit of his capabilities.

The Questioner

Just finding information is not sufficient to the questioning student. When information sources are not complete he is willing to write for more data, or ask a question, or otherwise obtain additional information. He doesn't accept things without attempting to verify them and will use many sources to obtain this verification. Every student should be able to assume the role of a questioner to some degree and you should make every effort to get him to do it.

The Problem Solver

The successful establishment and attainment of career objectives is dependent upon the individual's ability to define, analyze and work toward solutions of problems. Personal problems, educational problems and vocational problems can only be identified and dealt with by individuals who are experienced in relying upon their own judgment and abilities, who have self initiative, self discipline and self confidence. These are qualities which are not developed overnight; but are the result of extended experience geared toward placing the control of the student's eventual destiny gradually and thoughtfully in his own hands. This will require considerable patience and perseverence on the part of teacher and student and the confrontation of any situation with the realization that problems are inherent, though certainly overcomable. Emphasis should be placed on the potential that exists within any given problem situation for individual learning and achievement.

The School Representative

In business, industry and community contacts, both inside and outside of the school, the student has a special responsibility in that he is representing his school as well as himself. The successful acceptance of this role should result in his putting extra effort into creating a good impression that will reflect upon himself and the school. This will go a long way toward helping to create a welcoming atmosphere for future students who will go out and business representatives you will have in.

THE PARENT

To help their children work toward becoming adults parents should provide them with positive reinforcement. The orientation program for careers in transportation provides an opportunity for parents to support and encourage their children toward maturity. Prior to contacting parents you might read the booklet *The Parent's Role in Career Development* (See Chapter V, General Resource; for details) to obtain initial ideas. You might consider helping the students prepare a regular newsletter to parents informing them of your activities and encouraging them to display an interest in their children exploring transportation careers by helping in various ways. For instance, whenever possible, parents may do such things as:

a. Help create a real learning and exploration environment at home. Parents should strive toward loving, sharing, supportive, confidence-inspiring relationships with their children to provide a tension-free atmosphere that is conducive to productive study and achievement.

b. Provide physical facilities necessary to aid their children in home study. This can include providing a desk area, bookshelves, etc. It might include releasing the TV set to them when a program related to careers in transportation is being shown. Even turning the TV or radio volume down or completely off should be considered if the student must study nearby.

c. Positively encourage the entire concept of career orientation by trying not to prejudice or influence the student into a career which is against the child's abilities, interests, and capacities.

d. Accompanying students and furnishing transportation for field trips, to the library or other out-of-school locations.

THE ADMINISTRATOR

The administrator's primary role in the orientation to careers in transportation is to combine local goals, resources, facilities, and personnel into the best possible program for the students. Generally the principal is responsible for the implementation of all programs and projects in a school. He has responsibilities for curriculum in addition to his supervisory and other roles. Emphasizing this instructional responsibility is the fact that the word "principal" is a shortened form of "principal teacher."

Most principals find themselves involved even though their other duties prevent them from having a regular class schedule. A principal has several important roles to play.

Program Implementor

Though the principal may not use this guide in the same way that you, the teacher, will he is still responsible for the funds, time, space, supplies, etc., necessary for a successful program. Somewhere, sometime, the decision to provide all these necessities was made and the principal made it.

Facilitator

Innovative programs often come into conflict with established programs and procedures. In his role as facilitator, the principal works to avoid and to ultimately eliminate this conflict making this new program a successful addition to the curriculum.

Evaluator

As the orientation program for careers in transportation develops and proceeds it will require evaluation by the administrator. Should the program be expanded or curtailed? Are the personnel adequate to the tasks involved? Are the students making reasoned career decisions? Is the rest of the school staff evaluating the program from their point of view?

THE COUNSELOR

The counselor is in a unique position to aid both students and the teacher in exploring transportation careers because he has responsibility for a good deal of career information. In many schools there is the possibility that the entire responsibility for career orientation may fall upon the counselor, in which case he may need to assume the roles of the career orientation teacher as well as those of the counselor. There are four main areas where the counselor can be of special help.

Career Counselor

The matching of an individual's interests, abilities, aptitudes and attitudes to career possibilities is a primary concern of career orientation. The career counselor should aid the student in analyzing and assessing these qualities and interpreting them in the light of information he has obtained through his exploration.

Jobs Expert For Students

The counselor should be able to aid the student and teacher in locating information about salaries, training requirements, career ladders, etc. for careers in transportation using materials in his files or library. If he doesn't have this information, he should be willing to help you or the student obtain it. The counselor may also have direct community contacts, through professional organizations and the like, that can open doors for you and your students.

Schools Expert For Students

The student in career orientation has important decisions to make regarding possible future education or training. The counselor should have information about entrance requirements, tuition costs, types of programs, etc., available in a large number of schools. This should include training that large corporations might have as part of their internal training programs.

Personal Counselor

Students participating in an innovative program such as this are bound to have personal problems. Counselors can and should

assist students and, as they become involved, teachers and parents in resolving misunderstandings that may arise. An important information theory axiom states that all communication is only partially successful — there are always those who do not receive important information or those who misunderstand information that is received. Misunderstandings can lead to problems and the counselor, as a concerned third party, can help to resolve the difficulties. Use his services and encourage your students and their parents to do the same.

THE ACADEMIC TEACHER

One of the basic goals of career education is to restructure our educational system by focusing all subject areas around a career development theme. This implies a definite role in career exploration for teachers of the language arts, sciences, mathematics and social studies. To assume a role in career orientation the academic teacher must abandon teaching only in the abstract and move toward an emphasis on practical application. This will enable the student to find meaning and relevance in not only career orientation but in all of his other school work as well.

You, as the career orientation teacher, should assist the academic teacher in assuming this role by encouraging such things as mutual cooperation, observations, joint assignments, providing practical examples, etc. For instance: A written report could be both a career orientation and and English assignment with both teachers assisting the student; an investigation into the environmental aspects of transportation could be done in conjunction with a science project in biology or other science courses; the speech teacher may assist with oral reports on field observations to pass information to interested students not making the trip; and many practical examples from transportation can be provided for mathematics classes. (A mathematics teacher once used the top of a junked service station gasoline pump as a computer in the classroom.)

THE VOCATIONAL AND PRACTICAL ARTS TEACHER

Much of the activity that goes on in the field of transportation can be simulated in vocational, industrial arts, home economics, business and agriculture shops. Many of the

career orientation activities can be performed here in cooperation with these teachers. Vocational shops are intended to simulate industry as much as possible and are fertile grounds for both observation of operations and hands-on experiences.

As with the academic teacher, you should make cooperation and assistance your by-words with these teachers. You should make cooperative arrangements with them so that your career orientation students may "slot" in and out of their classes and shops as facilities and schedules permit. These teachers can also be helpful in talking to your students about their own work experience in business and industry.

THE LIBRARIAN

The librarian can be especially helpful to you and your students in career orientation. In most schools what used to be called the library has become the learning resources center. This suggests more than just books and magazines; it includes records, tapes, films, filmstrips, etc. The librarian can also order materials for you if asked, can set up special displays, and can set aside and reserve materials for your students.

OTHER SCHOOL STAFF

In addition to the persons mentioned specifically there are others in the school who are important to your program. These are such people as the secretary, registrar, custodian, assistant principals, bus drivers, etc. Although they may not be charged with any specific responsibilities with regard to your career orientation program they are required to support all school programs. As good team members, they should be willing to cooperate with you whenever possible.

INDUSTRY PEOPLE

Many corporations and organizations should have contributed major efforts to the setting up of your program, both materially and as advisors. They will continue to do so as long as they see a successful program. They play especially vital roles, since their

help and information comes directly from industry itself. While all aspects of business and industry, including labor-management relations or union negotiations, should be explored, highly controversial or emotional issues might be best left alone, if only to prevent the student's attention being sidetracked from the matter of career orientation. Some important business and industry people and what they can contribute to your program are listed below. You should consider appointing at least one of each to your advisory committee.

Corporation Executive

This man can best be used to obtain general information. He knows the overall operation of the industry, its problems, its future and its relationships to other industries. He also has the authority to provide you with access to certain requested areas in his organization and to see that you receive the best treatment.

Personnel Director

This person and his staff can tell you how many workers are employed in different jobs, what their salaries are, and the skills, aptitudes, and attitudes necessary for employment and promotion. The personnel director can also make predictions of job openings for the future; he can recommend the best preparation for employment in his company (although information on the industry as a whole may require supplementing such data from other sources.) His office should also be able to provide you with sample job applications and interview forms for use in your program.

Public Relations Specialist

This is normally the person assigned to handle questions of a general nature from the public and is usually the one you will meet and work with, at least on your first visit to a company.

Union Representative

Contact with union people should give the student a different viewpoint from that of industry management. You should use not only the representative who is an employee of the union but the steward who is also a worker. This is usually beneficial to the student, in that it will give the student a broader view of labor-management relations than might otherwise be the case.

Foremen and Workers

These are often the most difficult people to see and talk with because their primary responsibility is transportation and getting the job done, not instruction. However, they have the most direct, specific, and current job knowledge. They are at the action level of industry where people get their fingernails dirty. Very often they will have more influence on a youngster's career choices than glossy brochures or a tour of the president's paneled offices. When a student talks to a truck driver, ticket agent, mechanic, stewardess, or other worker, he is talking to someone doing the same thing he may be doing within the next five years. From the student's viewpoint, these contacts may be among the most valuable of all.

IV

THE PROGRAM PLAN

INTRODUCTION

A number of distinct problems have been encountered in the construction of this experimental curriculum in orientation to transportation careers. The program plan suggested in this chapter has been constructed with most of these problems in mind. Some of these are elucidated herein. Many have been encountered during trial implementation of this curriculum and appropriate revisions undertaken.

Orientation to transportation careers is a program which does not fit neatly into most school curriculums. It is anticipated the program described in this chapter will be infused, in whole or part, into a variety of existing programs. The program has been flexibly constructed, since the time devoted to it and the environment in which it is taught will probably differ from school to school. The program plan can be utilized as a complete and comprehensive curriculum or separated units can be used. The time and resources available will likely dictate the extent to which each phase of the overall orientation is explored.

It should be borne in mind that self concept clarification should be the unifying principle behind the entire program. If this program contributes in some way to the promotion of healthy self-understanding and self-acceptance on the part of students and serves to introduce students to the functions and influences of transportation and transportation occupations, then it has succeeded. The program plan suggested herein should be molded according to the individual needs and restrictions of your particular program and students.

A section entitled "Rationale" precedes a listing of Developmental Objectives. This section is included to provide the basis for further inquiry on your part into the theoretical concepts inherent in the goals of career orientation and to explain the development of the specific objectives which follow. The program plan for orientation, as well as objectives and rationale included in other parts of the Transportation cluster's career education program, is based largely upon the work of Larry J. Bailey, director of the Career Development for Children Project, and co-author with Ronald Stadt of *Career Education: New Approaches to Human Development*. The orientation model is based partly upon the career development model proposed by Bailey and Stadt. Curriculum materials developed by the Career Development for Children Project for grades K-8 are currently being produced by McKnight Publishing Company, Bloomington, Illinois.

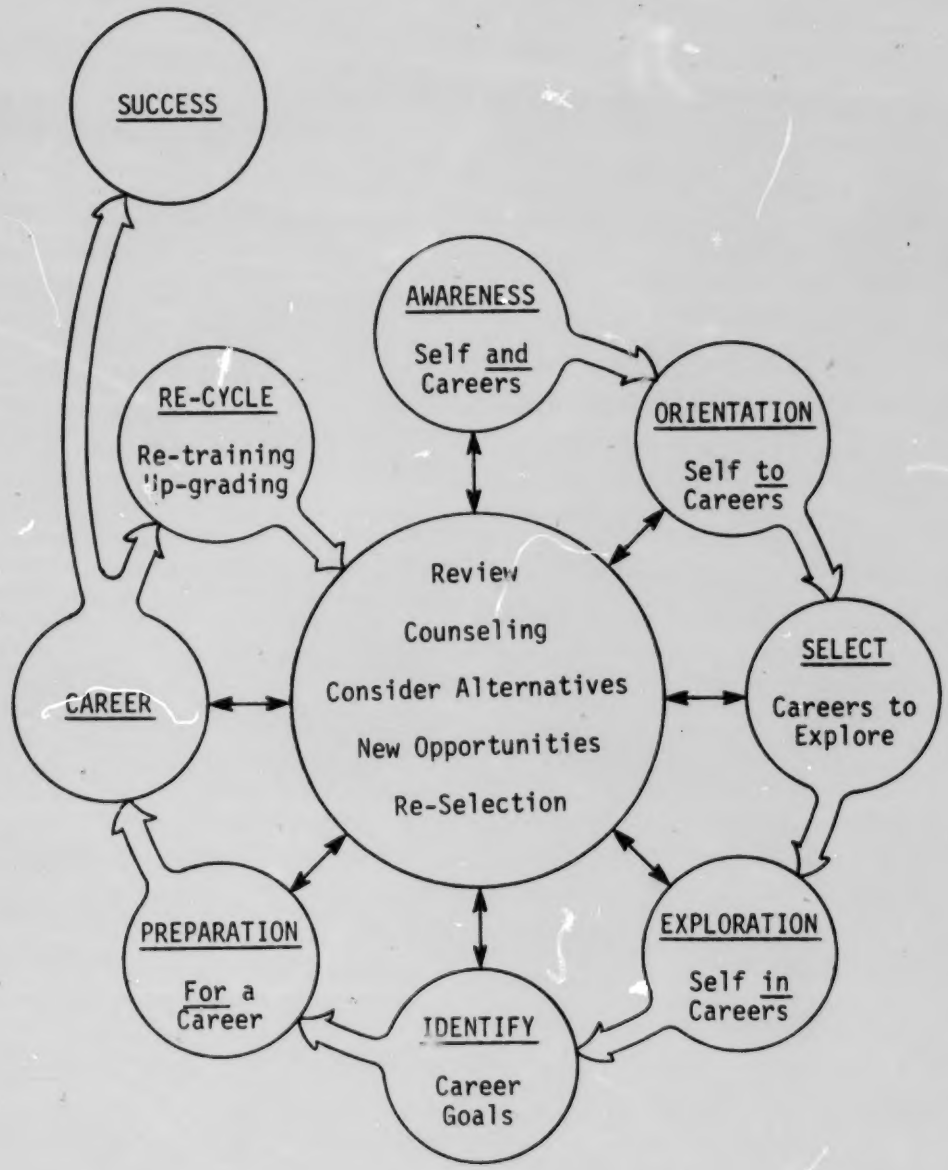
Each unit contains separate listings of resources which have been reviewed and deemed appropriate for the accomplishment of the objectives within that unit. In some instances, these annotated resource directories contain suggestions regarding their application, other resources with potential for accomplishing the same objectives and other special comments. The ditto master inserts directed at students are intended to complement suggested resources in the accomplishment of specific learning objectives. Essentially, the purpose of this curriculum guide is to provide a continuum of suggestions to teachers interested in integrating Career Orientation concepts into their respective academic or vocational programs, and those seeking to provide individual or group guidance services. It is anticipated the materials contained herein can provide the basis for individually-directed study ontthe part of many students. Field testing activities have reflected the need for curriculum materials which can be used under a variety of circumstances.

The flow chart which follows is intended to explicate the career plan process developed within these pages as an exercise in skill development, self concept formulation and planning essentials.

CAREER ORIENTATION OVERVIEW

GOAL: Development of Inquiry and Problem-Solving Skills and their Relationship to the Process of Career Planning.

RATIONALE: The concept which is a key to the development of the orientation phase is change. Change is an inescapable, all-pervasive force which will be a determinent throughout the educational and occupational lives of every one of your students. Their interests are changing, their abilities and aptitudes are changing, their values are changing and eventually their occupational identities will probably undergo several changes.



Career Education Program Model

It has been estimated that the information available to us is doubling with each decade. This overwhelming abundance of information, plus the purely arbitrary nature of any conceptual scheme or method of knowledge organization, lends credence to the goal stated for this phase of Career Orientation: the development of individual inquiry and problem-solving skills.

Henry Cole in his book Process Education puts it this way: "People do not live by information. The information is needed, but without the skills to act on the information, the person is crippled. The power lies not so much in the information as in the skills to organize and use it, to make meaning from it."

Far too much emphasis is presently devoted to information, bodies of knowledge, in educational practice, little emphasis is placed upon facilitating the skills for dealing with information.

Current literature emphasizes the need for the student's engagement of various exploratory activities throughout the career development continuum. Exploratory behavior is presumed to include the abovementioned skills of inquiry and problem-solving or decision-making. Jordaan defines exploratory behavior as "activities, mental or physical, undertaken with the avowed or unconscious purpose or hope of eliciting information about oneself or one's environment, or of verifying, or arriving at a basis for a decision, conclusion, solution or hypothesis, or of being entertained, challenged or stimulated." Exploratory behavior, according to Jordaan, "not merely modifies but plays a crucial role in shaping the way in which a person thinks about himself and about the world of work." Jordaan's search of the literature revealed the following key words associated with exploratory behavior:

Experiment
Investigate
Search for
Quest
Seeking out
Trying out
Trying one's hand at
Testing
Orient

Jordaan suggests that most exploratory behavior has its origins in situations in which the individual is confronted with or experiences a problem, need, want or lack. In other words, *exploratory behavior is essentially problem-solving behavior.*

Cole calls it "imperative that formal education become oriented toward the development of skills needed for effective living in an information-rich and complex world." But what are these skills?

Ivan Illich calls them "convivial tools." He notes that when knowledge specialization, construction of tools and goods, and social organization requires the common person to seek out specialists to solve problems he might properly solve himself, the individual is left feeling impotent and dehumanized. We all experience these feelings in our daily lives, as we must depend upon scores of persons to perform numerous ordinary functions which we are no longer allowed nor equipped to perform ourselves.

According to Illich, "A convivial society should be designed to allow all its members the most autonomous action by means of tools least controlled by others."

Conviviality is increased with a decrease in specialization of training of individuals, according to Illich. Each individual gains more control over his or her own fate through exercise of these convivial tools. Illich's proposition is in keeping with the major emphasis of career development education: the education of children toward becoming competent, happy, self-controlled adults in a world of work role. His proposal is to train them broadly in a wide array of convivial tools to enable them to do as much as they can for themselves; possessed of a wide array of skills which allow them to seek out and learn how to do what they want to do when they want to do it with minimum dependence upon the skills of any special person or group.

The following "qualities for career development curriculum" were proposed by Cole in his Approaches to the Logical Validation of Career Development Curricula Paradigms, a third party evaluation for the Career Development for Children Project. These qualities succinctly describe the desirable attributes this career education program should help develop in the individual student:

Quality 1 — A capacity for dealing with change and/or acceptance of uncertainty must be fostered by the curriculum.

Quality 2 — A basic fluency of perception, feeling, thinking, expression and action should be developed by the curriculum.

Quality 3 — The curriculum must respect the questing, imaginative and playful nature of the child.

Quality 4 — The curriculum must provide the student with many opportunities to be successful in solving problems, in clarifying his or her own values and in recognizing ambiguities and ambivolence in his or her own beliefs of others.

Quality 5 — The curriculum must broadly inform the student about the diversity of beliefs, roles and responsibilities in career activities of people.

Quality 6 — The activities in a career development curriculum must develop a child's capacity for tolerance, compassion and empathy.

Quality 7 — The curriculum must help the child find ways to contribute meaningfully to the welfare of some group.

According to Cole, "These are the basic qualities which career development curricula must meet if they are to be consistent with the basic issues faced by our society in educating youth toward productive occupational roles. They are deliberately broader in scope than the usual approach which chooses to present the student with information about the economic aspects of various occupations and urges him to think about what he would like to do when he grows up."

The following general goal and specific objectives apply throughout the total career development process, indeed, throughout the entire learning experience. The development of specific skills, particularly those which will produce autonomy in the learner (freeing him or her from the laborious and stultifying dependence upon a teacher which permeates so much of the educational experience), is considered the most important potential effect of this or any curriculum by the authors. Students should be continually encouraged toward development of the manipulative skills and questing behavior that will allow them to realize the full potential of the information contained herein.

REFERENCES

Cole, H. P. *Process Education.* Englewood Cliffs, NJ: Educational Technology Publications, 1972.

Cole, H. P. *Approaches to the Logical Validation of Career Development Curricula Paradigms.* Carbondale, Illinois: Career Development for Children Project, 1973.

Illich, I. *Convivial Tools.* Saturday Review of Education, 1(4): 63-67, 1973.

Super, D. E., Starishevsky, R., Matlin, N., and Jordaan, J. P. *Career Development: Self-Concept Theory.* Princeton, NJ: College Entrance Examination Board, 1963.

OBJECTIVES AND SUGGESTED LEARNING ACTIVITIES SEQUENCE

Develops inquiry and problem solving skills by:

-- Investigating the effects of individual interests, aptitudes and abilities on career development.

-- Exploring occupational information to gain orientation to the world of work.

-- Relating occupational, educational and personal information to the overall process of career selection.

-- Formulating a tentative plan for "exploration" based upon an understanding of the need to plan.

"YOU CANNOT TEACH A MAN ANYTHING; YOU CAN ONLY HELP HIM TO FIND IT WITHIN HIMSELF."

Galileo

UNIT I

GOAL: Clarification of Individual Self Concepts.

RATIONALE: A thoroughgoing understanding of oneself is essential to the successful definition of career interests and the effective implementation of a career plan. This unit is designed to stimulate individuals to consider their particular interests, abilities, aptitudes, potentials and values in comparison with the interests, abilities, aptitudes, potentials and values of others. This survey of self is integral to all career education programs at all levels. As the preceding chapter indicates, the Career Orientation phase is that point on the career development continuum at which self concepts are formulated into a more comprehensive picture of self.

According to Donald Super "...the concept of self is generally a picture of self in some role, some situation, in a position, performing some set of functions, or in some web of relationships." Indeed, most theorists visualize the self as inseparable from the social contexts in which that self exists. Self knowledge, then, is acquired within a social framework. Your students' self concepts are directly related to their interaction with "significant others" (Turner). The further the individual moves into the exploration of self, the more obvious it becomes that his image of self is influenced by others within his or her environment. Active contact with others leads to the process described by Allport as self-objectification: "...that peculiar detachment of the individual when he surveys his own pretentions in relation to his abilities... his own equipment in comparison with equipment of others, and his opinion of himself in relation to the opinion others hold of him." The individual, in time, comes to know himself in terms of the company he keeps or chooses to ignore. Sullivan contends that the individual comes to full stature as a human being in the reality of relationship with others, things and events (Turner).

"Through social experience he has to learn whether he is brave or cowardly, handsome or homely, quick-witted or deliberate, likable or surly, leader or follower, prophet or clown. In childhood the process often works in a fairly open faction. Children are not backward in calling each other names and classifying each other's behavior. Later the judgment of others are more apt to be inferred, but still operate to retouch in various ways the picture one has of himself. Thus even the concept of self... cannot be formulated without reference to social interaction and membership in groups (White)."

Knowledge and understanding of self comes from experience. Thus, as the individual experiences new events he will have new discoveries of self. The real self, though built upon relationships with others, can only be perceived by the individual. Self concept are "labels for an individual's evaluation of himself" (O'Hara and Tiedeman). A "realistic self-concept" as viewed by Barry and Wolf is a combination of three selfs: 1. the person's own intimate view of himself or his ego (self-concept); 2. his perception of how others view him or his idea of the social self (self-acceptance); and 3. his idea of the person he would like to be (self-ideal).

Work is one type of behavior in which an individual engages to meet his economic, social and psychological needs. Turner calls this actualization of self through work the functional self. The functional self, then, is a career self-concept and career development is the implementation of the functional self. An individual's occupational choice is an expression of the functional self and his behavior is an implementation of the functional self. By choosing an occupation in which the individual can actualize self he chooses "...a role which he thinks he can play, and he attempts to play the role in a way which is compatible both with his own aspirations and with the expectations of others." (Super).

The relationships of self to "significant others," the actualization of self through behavior, the impact of work on self concept and vice versa are all concepts which should be explored as thoroughly as possible within the framework of career education. You, the career orientation teacher, should not only direct your students' development of self-knowledge; but also, being cognizant of the role of "significant others" in self-concept formulation, endeavor to provide every possible opportunity for individual self-enhancement. You should seek to provide experiences which will enhance your students' perceptions of selves and underscore the importance of positive self-concepts. "Man's true existence," says Turner, "is in his living his life according to his possibilities as he actualizes them." The more numerous the possibilities available to the individual, the greater opportunity exists for

self-enhancing actualization of the individual's self-concepts. This first unit in career orientation is an attempt to expand the individual's possibilities through self-knowledge and an understanding of the relationships of the self to others, the world of work, the rest of society, etc. Bear in mind also the need for communicating the constant process of change as reflected in self concept and behavior. Without an understanding of change and its influences upon self-concept and behavior, the individual will acquire a distorted concept of himself in time.

REFERENCES

Combs, A. W. and Snygg, D. *Individual Behavior*. New York: Harper and Row, 1959.

Purkey, W. W. *Self-Concept and School Achievement*. Englewood Cliffs, NJ: Prentice-Hall, 1970.

Roe, A. and Siegelman, M. *The Origin of Interests*. Washington, DC: American Personnel and Guidance Association, 1964.

Sartre, J. P. *Being and Nothingness*. New York: Washington Square Press, 1962.

Sullivan, H. S. *The Interpersonal Theory of Psychiatry*. New York: W. W. Norton, 1953.

Tiedeman, D. V. and O'Hara, R. P. *Career Development: Choice and Adjustment*. New York: College Entrance Examination Board, 1963.

Turner, K. E. *A Theory of the Functional Self*. Carbondale, IL: Career Development for Children Project, 1973.

White, R. W. Lives in Progress, *A Study of Natural Growth and Personality*. New York: Holt, Rinehart and Winston, 1952.

OBJECTIVES AND SUGGESTED LEARNING ACTIVITIES SEQUENCE

1. Comprehends the importance of self evaluation in the process of career decision making by:

    1.1 Reviewing the appropriate criterion for self-evaluation (interests, aptitudes, abilities).

    1.2 Determining own self interests.

1.3 Determining own self aptitudes.

1.4 Determining own self abilities.

1.5 Assessing the influence of others on one's own self concept.

1.6 Discussing the potential impact of self concept on career planning and decision making.

1.7 Exhibiting an understanding of the need to initiate career planning.

CAREER DEVELOPMENT ACTIVITIES

This handbook of classroom and laboratory experiences is geared to grades 7 through 12. Its ten main sections include activities for students on: employment opportunities, understanding work, understanding yourself, career profiles, describing the worker, organized labor, starting your own business, career preparation, getting a job and holding a job. More than one hundred activities are included.

Career Development Activities
Larry J. Kenneke
Howard W. Sams & Co.
Indianapolis, Indiana 46268
Price: $4.50

CAREER PERSPECTIVE: YOUR CHOICE OF WORK

One of the better student-oriented resources, this book handles several fundamental aspects of career planning and selection in a sound manner. Celia Denues has organized and presented material on the "World of Work," the "basis of choice," and "making the choice" in a manner which reflects both care for and understanding of the student, as well as respect for his or her ability to digest and evaluate pertinent information. This will be a very helpful addition to any teacher or student's resource collection.

Career Perspective: Your Choice of Work
Celia Denues
Charles A. Jones Publishing Company
4 Village Green S.E.
Worthington, Ohio 43085
Price: $4.50

MAKING IT IN THE WORLD OF WORK

This 25 minute color film is one of the best resources available to the career orientation program. Its use of people with widely varying jobs and differing attitudes about their work is most effective. It is free of sex stereotyping (uncommon, even these days) and straight forward in its on-the-job interview approach. Not only is this a valuable resource in terms of presenting pertinent information (how I got the job, why I wanted it, what I like about it, what I don't like about it, etc.) with a very personal touch; but the film is an excellent springboard to discussions and interviews.

Making It In The World of Work
McKnight Publishing Company
Box 854
Bloomington, Illinois 61701
Price: $325.00

The Yellow Pages of Learning Resources is a resource which can be helpful to both teacher and student in several ways. The Yellow Pages contain lots of useful information concerning the topics discussed: Accountant, Airport, Garbage Man, Hotel, Restaurant, Zoo, etc. The basic approach ("What Can You Learn at _____?") should prove stimulating to discussants, interviewers, researchers and plain old inquirers. An appendix lists "schools or educational programs that are making direct use of environments other than the classroom as a learning resource and setting."

The Yellow Pages of Learning Resources
Richard S. Wurman, Editor
The MIT Press
28 Carleton Street
Cambridge, Massachusettes 02142
Price: $1.95

"THE PARENT'S ROLE IN CAREER DEVELOPMENT"

This is a brief summary of some of the ways in which parents can affect the career development of their children. It is directed at the parent, discussing such topics as: how career development begins, when should children begin to explore occupations, should a parent ever choose an occupation for a child, do young people give sufficient thought to the choice of an occupation and where parents can find help. Thought provoking in its coverage of an extremely important, though overlooked, topic: how parents can and should affect children's career development.

"The Parent's Role in Career Development"
Dale L. Knapp
James H. BEdford
National Vocational Guidance Association
1605 New Hampshire Avenue, NW
Washington, DC 20009
Price: 45 cents

CAREERS: EXPLORATION AND DECISIONS

Jargon addicts: Don't be deceived by the title. This little book covers the waterfront on Career *Orientation*. Author Rettig speaks matter-of-factly about such things as: How people choose their occupations; Human Needs; Types of Personalities; The World of Work; and Choosing an Occupation. A better bridge between self concept and occupational choice is probably not available. If you want to see an excellent example of respect for the capabilities and judgment of students, look no further. Rettig is upfront all the way. An extremely important resource for student and teacher.

Careers: Exploration and Decisions
Jack L. Rettig
Prentice-Hall, Inc.
Englewood Cliffs, NJ 07632

THE SELF-DIRECTED SEARCH: A GUIDE TO EDUCATIONAL AND VOCATIONAL PLANNING

This interest inventory, developed over two decades by John L. Holland, is entirely self administered, self scored and self interpreted. It is aimed at the junior high schools, but is definitely useful at many other age/educational levels. The ease of administration and interpretation is only one positive. The author takes care to point out that the value of the survey might well be in the simulation it seems to effectively generate among participants to consider many of the elements and considerations inherent to successful career planning and choosing. Properly introduced, this resource holds limitless potential. Improperly introduced, it is just a very good occupational interest inventory.

The Self Directed Search
John L. Holland
Consulting Psychologists Press
577 College Avenue
Palo Alto, California 94306
Price: Varies with quantity purchased

UNIT II

GOAL: To develop an appreciation for the value and dignity of work, an awareness of useful occupational resources and an understanding of the world of work for transportation occupations.

RATIONALE: Concurrent to the development of positive self-concepts the student should gain an appreciation for the dignity and worth inherent in work and the value of each individual's contribution to the world of work. As the individual student perceives his or her needs in relation to self perceived interests, aptitudes, abilities and values, attempts should be undertaken to determine the potential that exists within the world of work to meet said needs. Many vocational and non-vocational education programs attempt to impart moral values regarding the function and value of work and some even dictate a desirable work ethic to students.

Such attempts tend to deemphasize the development of thoughtful behavior, the consideration of self-concepts and the instigation of self-motivated and self-directed vocational exploratory behavior. Rather than impart a philosophy of work to students, this program is aimed at acquainting students with the potentials existent within the scope of work for meeting individual needs of students. Students should gain both an appreciation for the economic and social values inherent in various forms of work, as well as the potential that exists for meeting various individually-perceived needs.

The grade levels suggested for the Orientation Phase (grades 7-9) represent a critical stage in the career development of individuals. This is a period described by Ausubel as the second major crisis in ego development. The first crisis occurs in childhood when the child discovers that he or she is not

omnipotent and consequently experiences a severe devaluation of self. The child solves this crisis by adopting the role of satellite to the parents and conforming to their standards and expectations.

The second stage of ego crisis occurs at adolescence, according to Ausubel, when the individual must exchange derived status (satellite to parents) for primary status, become a person in his or her own right, and acquire intrinsic feelings of adequacy and worth. According to Jordaan, the choice of a vocation plays a crucial role in this process of acquiring intrinsic feeling of worth and adequacy.

A number of theories of occupational choice speak directly to the intrinsic worth and dignity of work. Possibly the most comprehensive assessment of the value of work in satisfying the needs of the individual is the "needs theory" developed by Ann Roe. Roe's theory pertains to the relationship between levels of needs and occupations, not between kinds of needs and occupations. She indicates that any occupation can serve to satisfy needs at a given level, instead of relating specific needs to specific occupations.

Van Rooy and Bailey discuss the potential within the world of work for satisfying various basic and derived needs and their "Conceptual Model of the World of Work" elucidates the theory behind the structural organization of work for the Career Development for Children Project, in which work is organized according to the various societal and individual needs it is capable of meeting.

Hoppock approaches the subject with the basic assumption that occupational activities are related to basic needs and that the adequacy of occupational choice improves as people are better able to identify their own needs and the potential need satisfaction offered by a particular occupation.

Bordin, Nachmann and Segal have made a comprehensive application of psychoanalysis to occupational choice and in doing so specified the aspects of work which satisfy various needs. In doing so they discuss the differential ability of occupations to satisfy instinctual needs, to gratify impulses, and to reduce anxiety.

John Holland approaches the satisfaction of needs issue in terms of personality. He describes occupations and groups of occupations in terms of their capacities for satisfying various personality traits. Holland establishes six main personality groups and relates these to various occupations in terms of the occupational potential for fulfilling personal need factors.

The trait and factor approach, the forerunner of all modern theories of occupational choice, is essentially a matching of the individual's potentials and abilities (traits) with the demands (factors) of the occupation, especially the demands on ability. This approach has dictated much of the practice of vocational guidance, but presents a potential danger in terms of too-narrow perspectives on the study of individual occupations. An over-reliance on standardized tests of aptitude, ability, intelligence and interest.

The common strain which runs through all the theories of occupational selection is a definition of individual needs and the potentials of work for meeting these needs. The process of self-concept development and clarification, explained earlier, should lead naturally to an exploration of work in terms of its potential for satisfying and fulfilling the individual. Therein is the key to individualizing exploration and thereby promoting an appreciation for the worth and dignity of work.

In his book Occupational Information, Hoppock presents a series of postulates about why people behave as they do when trying to make occupational decisions. Postulates 4 through 7 are these:

> 4. Vocational development begins when we first become aware that an occupation can help to meet our needs.
>
> 5. Vocational development progresses and occupational choice improves as we become better able to anticipate how well a prospective occupation will meet our needs. Our capacity thus to anticipate depends upon our knowledge of ourselves, our knowledge of occupations, and our ability to think clearly.
>
> 6. Information about ourselves affects occupational choice by helping us to recognize what we want and by helping us to anticipate whether or not we will be successful in collecting what the contemplated occupation offers to us.
>
> 7. Information about occupations affects occupational choice by helping us to discover the occupations that may meet our needs and by helping us to anticipate how well satisfied we may hope to be in one occupation as compared with another.

Hoppock accords primary importance to the role of occupational information in the career development process. The prevailing emphasis on occupational information, the widespread application it has had through various programs of application and its obvious value preclude further elaboration on the theory behind its use. Instead, attention will be directed to the present state of the art of occupational information, expecially within transportation.

Recent career education research and development efforts by the U. S. Office of Education have focused heavily on the design of programs according to the cluster concept. Fifteen clusters of occupations have been arbitrarily established by USOE. All existing occupations have been classified within one of the following clusters:

Agri-Business and Natural Resources
Business and Office
Communications and Media
Construction
Consumer and Homemaking
Environment
Fine Arts and Humanities
Health
Hospitality and Recreation
Manufacturing
Marketing and Distribution
Marine Science
Personal Services
Public Services
Transportation

Projects have been funded to develop career education curricula for all fifteen clusters. Initial efforts by the staff of the Transportation Cluster Project have resulted in a twelve-group breakdown of intermodal transportation occupations. The term intermodal is used to communicate the interrelationship of all modes of transportation in the transport of people and goods, as well as the interrelationships of various occupations across more than one mode with respect to functions, requisite abilities and aptitudes, work environments, etc. The commonalities of skills and knowledges among many occupations heretofor separated according to mode of transport promoted this classification system. The ever-changing nature of the world of work also had great influence, for the plight of students who have prepared for specific jobs which were either non-existent or over-populated upon the students' completion of training is well documented.

The document Intermodal Career Education: An Occupational Cluster Paradigm was developed for the Transportation Cluster by a group of transportation labor, education, management and regulatory experts. It is intended to be used as a sourcebook on the structure of occupations within transportation.

Of course, an introduction to transportation occupations should be preceded by a preview of the overall functions and influences of transportation. An historical perspective of the transportation industry seems requisite to a more in-depth understanding of the classification of transportation occupations. The availability of resources on transportation is too extensive for elaboration herein. However, it should be emphasized that background information on transportation could be easily interjected into any academic subject and is particularly appropriate to many vocational programs. It is vitally important that students be exposed to the application value of many of the things they are doing within school. In this respect, occupational information performs a valuable function, if students are acquainted with the wide array of potential resources and the availability of extensive information. They must be coached in the wise utilization of the sources, as well as directed to the resources themselves.

Bailey and Stadt emphasize four things students must be helped to learn: (1) the characteristics of data (e.g., interest classification, occupational and industrial classifications), (2) where data may be obtained, (3) how to use occupational resources and files, and (4) which types of information best meet their needs at the appropriate stage of career development. The burden of this help must rest with teachers and counsellors, whose knowledge of available resources and their relative usefulness is essential to student success.

REFERENCES

Ausubel, D. P. *Theories and Problems of Adolescent Development.* New York: Grune & Stratton, Inc., 1954.

Bailey, L. J., and Stadt, R. *Career Education: New Approaches to Human Development.* Bloomington, IL, 1973.

Barry, R. and Wolf, B. *An Epitaph for Vocational Guidance.* New York: Teachers College Press, 1962.

Bordin, E. S., Nachmann, B., and Segal, S. J. *An Articulated Framework for Vocational Development.* Journal of Counseling Psychology, 1963, 10 (2), 107-117.

Cole, H. P. *Process Education.* Englewood Cliffs, NJ: Educational Technology Publications, 1972.

Holland, J. L. *The Psychology of Vocational Choice.* Waltham, MA: Ginn and Company, 1966.

Hoppock, R. *Occupational Information.* New York: McGraw-Hill, 1967.

Super, D. E., Starishevsky, R., Matlin, N., and Jordaan, J. P. *Career Development: Self-Concept Theory.* Princeton, NJ: College Entrance Examination Board, 1963.

Tiedeman, D. V. and O'Hara, R. P. *Career Development: Choice and Adjustment.* New York: College Entrance Examination Board, 1963.

Van Rooy, W. H. and Bailey, L. J. *A Conceptual Model of the World of Work.* Carbondale, IL: Career Development for Children Project, 1972.

OBJECTIVES AND SUGGESTED LEARNING ACTIVITIES SEQUENCE

2. Understands the potential for work in the overall development of the individual's personality by:

- 2.1 Discussing types of basic values, i.e. work as a key to independence, a means of achieving satisfaction, a means of channeling basic drives.
- 2.2 Explaining the concept of individual differences in work values.
- 2.3 Stating personal attitudes toward work.
- 2.4 Discussing various other attitudes toward work.

3. Evaluates the potentials for work in meeting certain physical and psychological needs by:

- 3.1 Describing ways personal needs can be satisfied via work.
- 3.2 Relating fulfillment of needs to occupational goals.
- 3.3 Relating fulfillment of needs to job satisfaction.
- 3.4 Examining structure (e.g. Maslow) for identifying basic needs.

3.5 Providing examples of non-economic rewards of work.

3.6 Defining what "success" means to him/her.

3.7 Discussing non-work activities for meeting needs.

4. Understands the changing nature and meaning of work by:

4.1 Examining the changes which have occurred through the years in the nature and functions of various occupations.

4.2 Discussing the dual role of women in this changing society and acknowledging the social significance of working women.

4.3 Examining the basic principles of the labor market.

4.4 Tracing some basic trends in the labor market.

4.5 Identifying and examining emerging occupations.

5. Recognizes the need to effectively use occupational resources to maximize self-evaluation and promote career decision-making by:

5.1 Describing how occupational information can enhance career decisions.

5.2 Identifying potential resources for use in exploring occupations.

5.3 Describing available resources in terms of accuracy, recency and completeness.

5.4 Discussing different ways that occupations can be classified.

5.5 Examining occupational classifications in terms of self-evaluation.

5.6 Using occupational information as a basis for career planning.

6. Understands fundamental makeup of transportation systems by:

6.1 Reviewing historical background of transportation as a mover of goods and people.

6.2 Discussing changes which have influenced transportation.

6.3 Reviewing four basic modes of present-day transportation.

6.4 Discussing interdependence of transportation systems today.

7. Understands concept of intermodality as it relates to transportation careers by:

7.1 Discussing cooperation of transportation modes in moving goods and people.

7.2 Reviewing concept of intermodality of transportation occupations.

7.3 Discussing commonalities of skills, aptitudes, abilities, educational requisites and functions in various intermodal transportation occupations.

7.4 Reviewing basic groupings of intermodal transportation occupations.

7.5 Identifying twelve occupational groups within transportation.

ACTIVITIES AND RESOURCES FOR UNIT II

--Jack L. Rettig's recent book, Careers: Exploration and Decisions, is an excellent resource which provides much material for discussion. The book is directed at students and its forthright approach, compelling style and wealth of information make it an ideal student resource for career orientation. A chapter entitled "What Is Work?" could easily be used to introduce numerous activities, such as: doing research and group reports on the values and outlooks upon work among people of different cultures, economic levels, social classes, etc.; presenting dramatizations of conflict among people over work values; describing (via essay) personal work values and the reasons for their existence in students. Careers: Exploration and Decisions is a must for any Career Education library.

--A good means of securing information, especially on a topic such as work ethics and attitudes, is by way of the interview. Personal interviews of various workers by students will enhance not only the knowledge base of the interviewers, but also their communications skills. There are numerous interview-oriented films available, as well as tape recordings. One of the most valuable resources available is Studs Terkel's book Working. This series of interviews by the world heavyweight champion of interviewers focuses on people's attitudes about the work they do for a living. It will surprise, shock and stimulate everyone who reads it. A good discussion moderator could continue ad infinitum with Working as a discussion topic. Refer also to:

--Another excellent student text is Celia Denues' Career Perspective: Your Choice of Work. Chapter 1 is entitled "Why Work?" and contains several activities suggestions in addition to a succinct narrative. Discussion and debate could be initiated on several topics suggested by this chapter and others (especially Chapter two: "Work Versus Play"). Certainly the recent challenge to the traditional "Protestant Work Ethic" by thousands of non-conforming youth should inspire discussion. The effects of mechanization, increases in leisure time, growing specialization and other topics merit consideration. Both Career Perspective by Denues and Careers by Rettig all but preclude and need for further student materials development in career orientation.

--Making It In The World Of Work is a film which, if available, should be integrated into any careers program. It has few peers in terms of informative, well-balanced, non-sexist career resources. It will remain contemporary for several years and is another excellent resource for developing capable interviewers/interviewees.

--Literature, art, music, film and drama abound with illustrations of the thoughts and feelings of people toward work. Perhaps a student search of these various artistic media, and others, would produce some vivid examples and lead to stimulating discussion.

--The Occupational Outlook Handbook, which is now structured. according to USOE's 15 occupational clusters, is an excellent source of information on occupations. Its up-to-date, easy to read information includes descriptions of the working environment; requisite skills, education and training; current wage and salary figures; and future outlook for thousands of occupations. The Occupational Outlook Handbook is excellent for research reports; acquainting students with methods of classification; etc. It is a good place to start students in their quest for information, also good

background source for interviews, field trips, etc. The Occupational Outlook Handbook contains information on: nature of the work; places of employment; training, other qualifications and advancement; employment outlook; earnings and working conditions; and sources of additional information.

--The Dictionary of Occupational Titles is less helpful than the Occupational Outlook Handbook. Learning the code is hardly worth the yield of information. Especially in view of all the stimulating alternatives which exist. However, with some patient translation the DOT could provide enough information and involve enough thought (in the search) to be used. (But be careful not to overuse -- easy to do with this one.)

Possibly the best use of the DOT would be in stimulating discussion on methods of and reasons for classifying occupations. Also, why does the DOT even exist? Discuss and investigate its purpose, the method of its development and revision, etc.

--Schedule field trips to various world of work sites. Airports, truck freight terminals, rail freight yards, waterfront docks and others are good places to observe transportation occupations.

--Guest speakers can contribute much information and understanding. Be sure to prepare students for speakers with some background information, sample questions, research assignments, etc.

--The Yellow Pages of Learning Resources is a good student resource which can serve multiple purposes. This book addresses the potential inherent in the city as educational resource. It asks: "What Can You Learn From An Airport?"
A Child?
City Hall?
An Automobile?
A Union Boss?
A Vacant Lot?
and so on. The authors intend for the resources explored in the Yellow Pages to serve as examples to teachers and students of the potential for learning which the community possesses. It is a very good reference on interviewing and research.

--The National Geographic article "The Coming Revolution in Transportation" (September, 1969), though slightly outdated, is a good resource for acquainting students with the "now" of transportation systems and could serve as an introductory resource on the intermodal nature of transportation systems. At least one copy of the magazine should be available through a local school or community library.

--Hello World! Transportation is a book which not only serves as a good source of occupational information, but also as a good reference on interviewing. Student-conducted interviews with people on the job serves as the format. Plenty of good pictures abound.

--Any of the films listed in the accompanying resources section could be utilized for an introduction to transportation occupations in addition to the TCP's major resource: Intermodal Transportation Career Education. Discussions of the methods of classifying transportation occupations, as well as exercises in classification are appropriate to this section.

OCCUPATIONAL OUTLOOK HANDBOOK

The Handbook's new, revised format features an organization based upon the U. S. Office of Education's 15 occupational clusters. The information is still succinct and up-to-date, keeping the Handbook among the most valuable sources of occupational information available for both student and teacher. Information includes salary expectations, job outlook working conditions, educational requirements, etc.

Occupational Outlook Handbook
U. S. Department of Labor
Superintendent of Documents
Washington, DC
Price: $6.95

HELLO WORLD! A CAREERS EXPLORATION PROGRAM

Transportation, one of a series of occupational groups included in this series, covers air, ground and water transportation occupations with an interview format. Students (who are pictured throughout) actually conduct the interviews with real-life ticket agents, pilots, service station attendants, truck drivers, port stewards and longshoreman dispatchers. Teacher and student copies are available and should prove particularly helpful to those considering interviewing as a technique for gathering occupational information. Each group of occupations (air, water and land) is preceded by an introduction to the appropriate transportation mode.

Hello World! Transportation
Ruth Love Halloway
Elaine H. Stowe
Field Educational Publications, Inc.
Palo Alto, California
Price: $3.00
$1.00 (teacher's guide)

"THE COMING REVOLUTION IN TRANSPORTATION"
NATIONAL GEOGRAPHIC MAGAZINE

This 1969 special article serves as an excellent resource on the present and future of transportation which will remain pertinent and applicable for several more years. It could be effectively used as a source of general information, an object lesson in change, a promoter of discussion, etc. Though the orientation is not occupational, the information and photographs are excellent for introducing transportation.

"The Coming Revolution in Transportation"
Frederic C. Appel and Dean Conger
National Geographic Magazine
Vol. 136, No. 3(September, 1969)
pp. 301-341
National Geographic Society
17th and M Streets, NW
Washington, DC 20036

DIRECTORY OF TRANSPORTATION EDUCATION IN
U. S. COLLEGES AND UNIVERSITIES

This directory is a state-by-state breakdown of available junior and senior college programs in transportation. The directory includes such information as degrees offered and specific courses available in the United States and Puerto Rico.

Directory of Transportation Education
Jean M. Walker, Editor
Education Section
Public Relations Department
American Trucking Association
1616 P Street, NW
Washington, DC 20036
Price: Free

"TRANSPORTATION IS MOVING"

This eleven-minute color film is a good introducation to the various modes of transportation. Transportation's story is told in terms of the economic needs fulfilled via the movement of goods and people.

"Transportation Is Moving"
AIMS
P. O. Box 1010
Hollywood, California 90028
Price: $130.00

CAREERS IN TRANSPORTATION

This booklet describes a wide variety of career opportunities available in transportation. It is geared to the high school level reader.

Careers in Transportation
Delta Nu Alpha
15017 Detroit Avenue
Suite 222
Cleveland, Ohio 44107
Price: 25 cents

"TRANSPORTATION BY BUS"
"TRANSPORTATION BY FREIGHT TRAINS"
"TRANSPORTATION BY INLAND WATERWAYS"
"TRANSPORTATION BY HELICOPTER"
"TRUCKS AND TRUCK TRANSPORTATION"

These ten-minute color films succinctly depict various modes of transportation as they meet the day-to-day needs of the home and community.

AIMS
P. O. Box 1010
Hollywood, California 90028
Price: $125.00 each

YOUR CAREER IN TRANSPORTATION

This 185-page book, whose midsection contains a number of black and white photographs, may be a bit oldish; but the information contained within remains helpful and interesting. A general introductory section on the future of transportation career opportunities is followed by specific information on aviation trucking, bus, and railroad careers, as well as "careers afloat". Further sources of information are listed.

Your Career in Transportation
Robert A. Liston
Julian Messner
1 West 39 Street
New York, NY 10018
Price: $3.64

"AVIATION: WHERE CAREER OPPORTUNITIES ARE BRIGHT"

This filmstrip and student handbook were produced as a joint venture by the U. S. Office of Education, the Federal Aviation Administration and the National Aerospace Education Council. They depict some typical jobs in aircraft manufacturing, piloting, maintenance, government services and the airlines. There is also a section entitled: "How to Get Started Toward a Career in Aviation."

"Aviation: Where Career Opportunities Are Bright"
Federal Aviation Administration
Office of General Aviation Affairs
800 Independence Avenue, SW
Washington, DC 20591

"PORTRAIT OF A RAILROAD"

This award-winning film produced by Burlington Northern Railroad has won awards at international film festivals in Helsinki and Venice and received numerous American film awards. The story of modern railroading is told via an excellent combination of photography and music and will appeal to persons of all ages. Very good introduction to railroading.

"Portrait of a Railroad"
Color film
c/o Anne Bennof
Coordinator of College Services
Office of Information and Public Affairs
Association of American Railroads
American Railroads Building
Washington, DC 20036
Price: Free Rental

"TRUCK DRIVERS DICTIONARY AND GLOSSARY"

This off-beat little book will probably be a favorite with students of varying ages. Do you know what a possom belly is? How about a lie sheet? When was the last time a trucker smoked you? To find out write the American Trucking Associations for free copies of this publication. Then listen to the jargon fly.

"Truck Drivers Dictionary and Glossary"
American Trucking Associations, Inc.
Education Section
1616 P Street, NW
Washington, DC 20036
Price: Free

ORGANIZATIONS

American Trucking Associations, Inc.
Education Section
1616 P Street, NW
Washington, DC 20036

Available from ATA are such materials as the "Truck Drivers Dictionary and Glossary", a fun addition to any classroom; "On The Road With Truckers", an article reprint describing a long-haul trucking operation from the driver's vantage point; and various other educational materials.

Delta Nu Alpha
Transportation Fraternity, Inc.
15017 Detroit Avenue
Suite 222
Cleveland, OH 44107

Among the information available through this national transportation fraternity is the "Careers in Transportation" booklet.

Federal Aviation Administration
Office of General Aviation Affairs
800 Independence Avenue, SW
Washington, DC 20591

A wide variety of educational materials and guidance available here. Filmstrip/handbook "Aviation: Where Career Opportunities are Bright" is noteworthy.

National Defense Transportation Association
1612 K Street, NW
Suite 706
Washington, DC 20006

Beech Aircraft Corporation
Wichita, Kansas 67201

Available from Beech are various resource materials, including a high school syllabus, aviation education kit, cloud charts and product brochures. Excellent for media center, bulletin board display, etc.

Pacific Southwest Airlines
c/o Glenn Elliott
Educational Services
3225 North Harbor Drive
San Diego, CA 92101

Information regarding a highly successful classroom enterprise activity sponsored in part by Pacific Southwest is available.

Air Transport Association of America
Public Relations
1709 New York Avenue, NW
Washington, DC 20006

Materials available include a 13-minute film entitled, "The Airline Story" and a brochure entitled, "Your Airline Ticket: A Great Bargain." Good introductory material on commercial airlines — past, present and future.

Association of American Railroads
Information and Public Affairs
1920 L Street, NW
Washington, DC 20036

A wide variety of resource materials available. Of special note are: "The Human Side of Railroading", an interesting look at the people who run railroads; "Train 2", a pamphlet describing a nationwide freight car information system; and a variety of materials (transparencies, recordings, brochures, etc.) describing the railroad world.

Cessna Aircraft Company
Air Age Education Department
P. O. Box 1521
Wichita, Kansas 67201

"New Aviation Teaching Aids Kit" tops the list of resources available from Cessna. Kit contains posters, Cessna aircraft panel charts, cloud charts, model planes and instrument and radio panel charts. (Price: $5.00)

UNIT III

RATIONALE: The previous two units have been an amalgam of career orientation experience, loosely organized, but containing the basic tenets of what the Transportation Curriculum Project considers important to this particular stage of career development. The previous units have been presented in such a way as to allow you, the teacher, maximum benefit of the resources which went into their creation. This has been done both to promote greater understanding of the development of the model and activities, and to make the units themselves more teachable.

Unit III will require very little further explanation on such points as the need to plan, the nature of vocational choice, etc. TCP materials have been designed to articulate.

Unit III will not include an extensive rationale. It should, by this time, be relatively clear to the student that there is a NEED to begin formulating plans. The degree of need will vary from student to student, but all should have some comprehension of the benefits of looking ahead and attempting to place things — education, work, life-style, present needs and desires — in perspective.

The theoretical aspect of choice-making has been covered. It will benefit students to enter into the following exercise, in which they will be asked to choose a transportation-oriented career and map out certain expectations with regards to that career, in different ways. The exercise itself serves as a transition to the EXPLORATION PHASE, during which more serious thought will be given to attempting to relate to transportation careers.

Although, the goal of this unit is for the student to make a tentative career choice and explore that choice further by mapping out an educational and career plan as specified, it should be borne in mind by both student and teacher that this is merely an exercise. The choice the student makes is binding only insofar as it determines how he or she spends his or her time exploring a specific occupation in the exploration phase. But it does not dictate further study, exploration activities or life goals. The tentative nature of this choice should be stressed. The rationale for this has already been explicated, as has much of the theory behind the choice itself.

It is critical that students acquire an urgency and follow it through to see where planning and exploration will lead them. But it is just as urgent that they know that decisions — particularly those made at this early age — are not irreversible. The important thing is to take care that they acquire the tools and skills and become familiar with the processes involved in choosing an occupation and its requisites. Also take care that they do not become paralyzed by the thought of deciding. Or that, if they do, they come to understand why the decision is, to them such an awesome one.

I

GENERAL RESOURCES

BOOKS, BOOK LISTS AND PAMPHLETS

This chapter includes an exhaustive listing of resource materials available on transportation. It includes books, articles, films and filmstrips and periodicals. Whenever possible, complete information is provided (including prices, addresses, descriptions of material, etc.). This list of resources will be continually updated by the Transportation Curriculum Project staff. Any errors in information or additional resources discovered by you in your management of this career education program should be noted on the final pages of this chapter and subsequently reported to the project staff. This will facilitate staff work toward making this resource listing as accurate and comprehensive as possible. Your assistance in this task is critical to the effective compilation of concise information.

You will note that many of the resources suggested herein pertain to specific occupations or families of occupations. You should refer to these resources when covering appropriate sections in the document *Intermodal Transportation Career Education: An Occupational Cluster Paradigm*, the source book of occupational information developed by the Transportation Curriculum Project for use with this teachers guide.

Suggestions for this list were obtained from many different sources and resultingly, the amount of information provided about these items has also varied. If an item has seemed especially interesting — or relatively unduplicated by other items — it has been included here, even though information about it might be somewhat incomplete.

Most usually this has occurred with items that were published prior to 1970 or that are now out-of-print. Some of these have been included in this list if sources indicated that they still contain relevant information and are still available in many school and public libraries.

Whatever information might be lacking on certain items, the complete name and address of the publisher is included in each case. This will permit the teacher or student to contact the source of any item not available in local libraries.

In the publishing industry, prices have increased in recent years and, in addition, prices of educational books tend to fluctuate according to who orders them and from what source they are obtained. Unless items are free or unusually expensive, prices are omitted in the following lists due to the great difficulty involved in remaining current as new editions of these works appear. However, this should provide no difficulty in ordering these books, since all of these publishers will extend credit to schools and responsible persons connected with them. The sole exception to this is the U. S. Government Printing Office — but it provides very rapid response when current prices are requested.

1. *Aim for a Job in Automotive Service.* Authors: Dawson Taylor and James Bradley.
   Aim for a Job in Trucking. Authors: John P. McGill and W. L. Robinson. Published by Richards Rosen Press, 29 E. 21st St., New York, N.Y. 10010.

   Both books cover sales, marketing, operations, safety, maintenance, public relations, advertising, accounting and traffic as well as driving.

2. *A List of Books for Possible Use in Teaching or Studying Railroad Transportation in Colleges or Universities.* Prepared and published by: Association of American Railroads, Transportation Building, Washington, D. C. 20006; 1969; Free.

   This pamphlet is intended as a guide to the instructor teaching transportation courses. It represnets a compendium of texts and recommended readings for those interested in railroad transportation.

3. *American Association of Junior Colleges Aviation Guidelines.* Author: Harold L. Finch; Published by: American Association of Junior Colleges, One Dupont Circle, Northwest, Washington, D. C. 20036; 64 pages.

A booklet dealing with the establishment of an educational program in any one of the general areas of air transportation, including: Aviation Education — The Big Picture; Getting Started — General Guidelines; and Aviation Programs.

4. *American Trucking Trends.* Prepared and published by: American Trucking Association, Inc., 1616 P Street, N.W., Washington, D. C. 20036; 1971; 36 pages, Free.

   Provides all-round coverage of the trucking industry. Teachers will find in it many facts and figures about trucking occupations, and students themselves will be able to use it as a resource.

5. *America on the Move.* Published by: U. S. Department of Transportation, Washington, D. C. 20590; 1972.

   A collection of stories introducing transportation in America-past, present and future. Bibliography.

6. *Aviation and Transportation Majors and Curricula Offered by Colleges and Universities.* Prepared and published by: Office of General Aviation Affairs, Federal Aviation Agency, U. S. Department of Transportation, Washington, D. C. 20590; 1970.

   This is a listing of colleges and universities, (classified by status) which offer majors and curricula in Aviation and Transportation.

7. *Aviation Education Bibliography.* Produced and published by: National Aerospace Education Council, 616 Shoreham Building, 806 15th Street, N.W., Washington, D. C. 20005; 1967.

   This booklet consists of an annotated series of selected materials relating to education in the field of aviation.

8. *Aviation, Where Career Opportunities Are Bright.* Available from: National Aerospace Education Council, Room 616, Shoreham Building, 806 15th Street, N.W., Washington, D. C. 20005; 1968.

   Available in three forms — as a student handbook, as a counselor's guide, and as a film strip. For each of the following, the kinds of jobs, need for personnel, salaries and wor ing conditions are outlined: Aircraft Manufacturing Occupations; Career Pilots and Flight Engineers; Aviation Mechanics; Airline Careers; Airline Stewardesses or Stewards; Aviation Careers in Government; Airport Careers; and Aviation Education and Other Aviation-Related Careers.

9. *Barge and Towing Industry Catalog of Publications, Films and Information Resources.* Prepared and published by: American Waterways Operations, Inc., Suite 502, 1250 Connecticut Avenue, Washington, D. C. 20036; 1967; Free.

   This list is restricted to water carriers.

10. *Bibliography of Railroad Literature, 8th Edition.* Prepared and published by: Association of American Railroads, Transportation Building, Washington, D. C. 20006; Free.

    This bibliography is intended to list the most outstanding books and stories about railroads. Books are grouped under these headings: Childrens Books; Juvenile Books; General Literature; Model Railroading. Also included are sections on Railroad Statistics and Railroad and Travel Periodicals.

11. *Career Opportunities in Aviation.* National Aerospace Education Council, Shoreham Building, 806 15th Street, N.W., Washington, D. C. 20005; 1967.

    Presents a concise but detailed survey of aviation career opportunities. Particular attention is given to the aviation mechanics field. There is also a complete roster of F.A.A. certificated aviation mechanic schools.

12. *Careers in Aerospace.* Published by: American Institute of Aeronautics and Astronautics, 1290 Avenue of the Americas, New York, N.Y. 10019; 1972.

    Booklet providing information on aerospace careers requiring college education. Lists schools and additional information sources. Bibliography.

13. *Careers in Aviation.* Reprinted from Flying Magazine, August, 1963. Distributed by: National Aerospace Education Council, 616 Shoreham Building, 806 15th Street, N.W., Washington, D. C. 20005.

    This article presents a survey of careers in aviation which is still timely.

14. *Careers in the American Railroad Industry.* Author: Charles O. Margret; Published by: Bellman Publishing Company, P. O. Box 172, Cambridge, Massachusetts; 1960; 32 pages.

    A fairly comprehensive outline of careers in the railroad field, although some of the material is now out-of-date.

15. *Containers: Land, Sea, Air.* Prepared and published by: American Trucking Associations, Inc., 1616 P Street, N.W., Washington, D. C. 20036; Free.

This booklet outlines the implications of containers in cargo transportation.

16. *Dictionary of Occupational Titles, 3rd Edition.* Prepared by: Bureau of Employment Security, U. S. Department of Labor. Distributed by: Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402; 1965.

A comprehensive guide to all occupations, including those in transportation. Most jobs are defined in broad terms. There is a certain amount of cross-referencing in these two volumes according to job characteristics and other elements.

17. *Directory of Transportation Education in U. S. Colleges and Universities.* Author: Jean M. Walker. Published by: American Trucking Associations, Inc., 1616 P Street, N.W., Washington, D. C. 20036; 24 pages; Free.

This pamphlet is for students interested in careers in transportation requiring education beyond high school and for others interested in taking courses in this field.

18. *Domestic Transportation.* Practice, Theory and Policy. Authors: Roy J. Simpson and Martin T. Farris; Published by: Houghton Mifflin Company, 2 Park Street, Boston, Massachusetts 02107; 1971.

A college textbook which could prove a useful reference for the teacher concerned with this field. The contents cover the following areas: The Role of Domestic Transportation; Economic Characteristics and Performance of Domestic Transportation; Carrier Services in Domestic Transportation; Regulation of Domestic Transportation; Goals in Domestic Transportation Policy; Transportation Aspects of Physical Distribution Management.

19. *Facing Facts About Choosing Your Life's Work.* 1968.
Facing Facts About Preparing for Your Future. 1971.
Facing Facts About the Two-Year College. 1970.
Facing Facts About Your College Career. 1971.
Published by: The Prudential Insurance Company, Box #36, Newark, N.J. 07101; Free.

Personal booklets with paper and pencil self-inventories. Bibliography.

20. *General Motors Dealership Career Day Kit.* Prepared and published by: Career Program Service Section, General Motors Corporation, Room 8-151, General Motors Building, 3044 W. Grand Blvd., Detroit, Michigan 48202; Free.

This Career Kit is of varied contents, including a handbook, pamphlets, and a motion picture. Its purpose is to interest young people in the retail automotive business.

21. *Guidance Publications.* Published by: Guidance Center, University of Toronto, 371 Bloor Street, W., Toronto 5, Ontario, Canada.

These brief monographs deal with individual occupations. Some relate to transportation, (Example: Bus Driver). Each monograph describes the job involved, personal and educational requirements, entrance and advancement, earnings, working conditions, and advantages and disadvantages of the job. Most of the included information applies equally to the United States as to Canada.

22. *Handbook of Transportation in America.* Author: Charles Lunz; Published by: Popular Library, 355 Lexington Avenue, New York, N.Y. 10017; 1971.

Discusses rail, motor, air and water transportation. The emphasis is on their historical backgrounds and the Federal Government's regulation of each.

23. *Highway Safety Occupational Opportunities.* Highway Users Federation for Safety and Mobility, Washington, D. C. 20036; 1970; 372 pages.

Outlines what the field of highway safety offers in occupational opportunities. Covers occupations in driver and traffic safety education, emergency medical services, highway safety programs administration, police traffic services, traffic engineering, and traffic law and records.

24. *Highway Safety Occupational Program Development Guide.* Authors: Ronald Daugherty, W. Kent Brooks and Carroll R. Hyder. Published by: Center for Vocational & Technical Education, Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210; 1971.

This book presents an overview of the field of highway safety, including eleven occupations in this area which appear to have the greatest potential. It also includes curriculum materials.

25. *An Introduction to Aerospace Education.* Editor: Mervin K. Strickler, Jr.; Published by: New Horizons Publishers, Inc., Chicago, Ill.; 1968.

Programs and activities for introductory aerospace education at all grade levels. Bibliography.

26. *Job Guide For Young Workers.* Prepared by: Manpower Administration, U. S. Training & Employment Service; Distributed by: Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

Includes information on such matters as obtaining jobs, but the greater part of it is devoted to descriptions of 150 occupational groups frequently entered by youth after they graduate from high school. Jobs in the transportation field are included.

27. *Materials For Occupational Education: An Annotated Service Guide.* Author: Patricia Schuman, Published by: R. R. Bowker Company, Order Department, P. O. Box 1807, Ann Arbor, Michigan 48106; 250 pages.

This book lists 600 organizations, associations, government agencies and companies which publish instructional materials relating to occupational education. There is a section on Traffic and Transportation.

28. *Modern Transportation Economics.* Author: Hugh S. Norton, Published by: Charles E. Merrill Publishing Company, 1300 Alum Creek Drive, Columbus, Ohio 43216; 1971.

This book is divided into five sections. Part I presents an over-all view of the transportation industry. Part II discusses the production of (and demand for) transportation service. Parts III and IV discuss regulatory and policy issues. Part V considers certain broad aspects of current policy problems.

29. *Motor Carrier Safety Regulations.* Prepared by: U. S. Department of Transportation, Distributed by: Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402; 1971.

This booklet is the most authorative source of information regarding regulations which govern motor carriers in general.

30. *Occupations and Careers.* Authors: S. Norman Feingold and Sol Swordloff. Published by: McGraw-Hill Book Company, 330 West 42nd Street, New York, N.Y. 10036; 1969.

Intended to help young people explore the world of work. The first part of the book tells the student why he should study occupations, how he should go about it, and why it is important that he learn about himself. The second part is divided into chapters which explore broad occupational groups.

31. *Occupational Outlook Handbook, 1972-73 Edition.* Prepared by: Bureau of Labor Statistics, U. S. Department of Labor, Distributed by: Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

This book serves as a comprehensive and basic service of occupational data. The elements included are: the nature of work involved in each occupation; the places of employment; training, other qualifications, and advancement; the employment outlook; earnings and working conditions; and sources of additional information.

32. *Occupations in Transportation.* Author: Wiley B. Lewis; Published by: ERIC Clearinghouse on Vocational and Technical Education, The Center for Vocational and Technical Education, Ohio State University, 1900 Kenny Road, Columbus, Ohio 43210; 1970; Free.

This report focuses upon job openings. Five categories are covered; Air, Motor Vehicle, Pipeline, Radio and Water Transport.

33. *Opportunities in Traffic Engineering.* Author: Carlton C. Robinson; Published by: Vocational Guidance Manuals, 235 E. 45th St., New York, N.Y., 10017; 1966.

Lists opportunities, required education, where to get it and additional information sources. Bibliography.

34. *The Parent's Role in Career Development.* Authors: Dale L. Knapp and James H. Bedford; Published by: The National Vocational Guidance Association, 1605 New Hampshire Avenue, N.W., Washington, D. C. 20009; 1967

Parents inevitably influence the developing attitudes and choices of their children. This booklet has been designed to focus attention on that influence and the way it may be used wisely in furthering the vocational development of young people.

35. *Planning Your Future, Look First At The Retail Automotive Business.* Prepared and published by: General Motors Career Program Service Section, General Motors Corporation, Room 8-151, General Motors Building, 3044 W. Grand Blvd., Detroit, Michigan 48202; Free.

This pamphlet is written for the student. It presents an overview of the retail automotive business — sales, service, parts, office and general management.

36. *Safety Specialist Manpower: Manpower Requirements.* Prepared by: Booz Allen & Hamilton, Inc., Published by: National Highway Safety Administration Bureau, U. S. Department of Transportation, 400 Seventh Street, S.W., Washington, D. C. 20590; 1968.

Four separate volumes. Volume I deals with manpower requirements for state highway safety programs and outlines the types and numbers of jobs involved. Volume II presents estimates of manpower resources in both state and national terms. Volume III presents data on safety manpower training programs. Volume IV summarizes the other volumes and presents recommendations to assure adequate staffing of highway safety programs.

37. *Subject Guide To Books In Print.* Published by: R. R. Bowker Company, Order Department, P. O. Box 1807, Ann Arbor, Michigan 48106.

This periodically updated volume is the source to turn to when you need a list of currently available books on any transportation topic. It is available in all public libraries.

38. *The American Motor Transport Industry.* Author: N. Curry; Published by: Bellman Publishing Company, P.O. Box 172, Cambridge, Massachusetts; 1956; 40 pages; Free.

This vocational monograph outlines the history of the motor industry, its importance to society, employment opportunities, nature of the work, education and probable earnings.

39. *The American Railway Industry.* Author: C. J. Corliss; Published by: Bellman Publishing Company, P.O. Box 172, Cambridge, Massachusetts; 1955; 26 pages.

Somewhat briefer than the foregoing one about the American Motor Transport Industry but presents substantially the same information relating to our railroad industry.

40. *The Search For Air Safety.* Author: Stephen Barley; Published by: William Morrow & Company, Inc., 125 Madison Avenue, New York, N.Y. 10016; 1970.

This book will introduce the young person to both "aircrash detectives" and a wide variety of aircraft accidents that have occured all over the world.

41. *Trains.* Author: Robert S. Henry; Published by: Bobbs-Merril Company, 4300 W. 62nd Street, Indianapolis, Indiana 46268; 1954; 134 pages.

Deals with the past and present of American railroads. Much of the story is told through pictures.

42. *Transportation Careers.* Author: James Toedtman; Published by: Delta Nu Alpha Transportation Fraternity, 15017 Detroit Avenue, Cleveland, Ohio 44107; 1973.

Presents material to facilitate career choice as well as educational and informational sources. A good, short introduction to careers in transportation.

43. *Transportation Statistics In The United States.* Prepared by: U. S. Interstate Commerce Commission; Distributed by: Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402.

This book contains a vast array of statistics on the following: Railroads; Sleeping Car Companies; Railway Express Agency; Electric Railways; Carriers by Water; Oil Pipe Lines; Motor Carriers; Freight Forwarders; and Private Car Lines.

44. *Transportation: Managing Man On The Move.* Author: Paul M. Danforth; Published by: Doubleday & Co., Inc., 277 Park Avenue, New York, N.Y. 10017; 1970; 192 pages.

One of the Doubleday Science Series. Its emphasis is upon untangling the congestion and frustrations involved with transportation today.

45. *U. S. Department of Transportation - Facts and Functions.* Available from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.; Stock Number 5000-0049.

Booklet describing the U. S. Department of Transportation and its operating administrations. A good introduction to government's role in transportation.

46. *Vocational Guidance Manuals.* Published by: Vocational Guidance Manuals, Inc., 235 E. 45th Street, New York, N.Y. 10017.

These manuals deal with specific career fields in a concise but comprehensive way. Usually individual manuals will exceed 100 pages in length. Topics in each will range from a general survey of the field, its organization, duties of various types of personnel, qualifications required, advantages and disadvantages of these careers, earnings and opportunities for advancement. Several deal with transportation. (Examples: "Opportunities in the Merchant Marine" and "Opportunities in Motor Transportation").

47. *Your Career In Transportation.* Author: Robert A. Liston; Published by: Julian Messner, Inc., 1 West 39th Street, New York, N.Y. 10018; 1966.

This book discusses the major areas of transportation, their development, their present competitive positions, and their potential for future growth. Career opportunities receive considerable emphasis.

48. *Your Future as an Airline Stewardess.* Author: Patricia Rudolph.
Your Future as a Pilot. Author: Kimball Scribner.
Your Future in Aerospace Technology. Author: L. D. Ely.
Your Future in Railroading. Author: Thomas M. Goodfellow.
Your Future in Traffic Management. Author: Robert E. Heine.
Your Future in Trucking. Author: Eskow.
Your Future in the Merchant Marine. Author: Gordon McLintock.
Your Future in the Automotive Industry. Author: Dawson Taylor.
Published by: Richards Rosen Press, 29 East 21st Street, New York, N.Y. 10010.

These books give in-depth studies of each area including job operations, educational requirements, how to get a job, life styles of workers, lists of associations, schools and unions, etc. Excellent books for the library. All have extensive bibliographies.

FILMS AND FILMSTRIPS

1. *Aerospace.* Filmstrip and Record. Aero Products Research, 11201 Hindry Avenue, Los Angeles, California 90045.

2. *The Air Jam.* University of Illinois, Urbana, Illinois 61801; 1968; 25 minutes; 16mm.

3. *Air Series.* pp. 91-2, 1969 catalog, U. S. Government films. National Audiovisual Center, Washington, D. C. 20409; 16mm.

4. *Air Transportation Jobs For You.* Filmstrip (57 frames). Minneapolis Public Library, Audiovisual Department, 300 Nicollet Avenue, Minneapolis, Minnesota 55401; 35mm.

5. *Aircraft Accident Investigation.* (TF 1-8150) Department of the Navy, Chief of Industrial Relations, Code 500, Pentagon Annex #1, Room 554, Washington, D. C. 20302; 37 minutes; 1957.

6. *Aircraft Piston Engine Ignition and Spark Plugs.* Filmstrip. Produced by Champion Spark Plug in cooperation with the FAA; 36 minutes.

7. *Airplanes: A First Film.* University of Illinois, Urbana, Illinois 61801; 1970; 11 minutes; 16mm.

8. *Airplanes: How They Fly.* Indiana University, Bloomington, Indiana 47401; 10 minutes; 16mm.

9. *Airplanes: Principles of Flight.* Indiana University, Bloomington, Indiana 47401; 10 minutes; 16mm.

10. *Airplanes Work For Us.* University of Illinois, Urbana, Illinois 61801; 1960; 11 minutes; 16mm.

11. *Airport Passenger - Flight 376.* Filmstrip. Academy Films, 748 No. Seward Street, Hollywood, California 90038; 1969; $3.50.

12. *Airport Passenger Service.* (PTS6) Filmstrip, primary intermediate level. Churchill Films, 662 North Robertson Boulevard, Los Angeles, California 90069; 1970; $39.00.

13. *All The Facts.* National Cash Register, Audio Visual Services, Marketing Educations and Publications, Dayton, Ohio 45409; 9 minutes.

14. *American Road.* University of Illinois, Urbana, Illinois 61801; 1953; 39 minutes; 16mm.

15. *At the Other End of the Mike.* Federal Aviation Administration Film Library, P.O. Box 25802, Oklahoma City, Oklahoma 73125; 1961; 10 minutes; 16mm.

16. *Aviation Mechanic.* Federal Aviation Administration Film Library, P.O. Box 25802, Oklahoma City, Oklahoma 73152; 20 minutes; 16mm.

17. *Aviation - Where Career Opportunities Are Bright.* Filmstrip, 152 frames, accompanying two side 33 1/3 rpm record. Counselor Slides. National Aerospace Education Association, 806 15th Street, N.W., Washington, D. C. 20005; $10.00.

18. *Behind the Scenes at the Airport.* University of Minnesota, Department of Audiovisual Extension, 2037 University Avenue, S.E., Minneapolis, Minnesota 55455; 10 minutes.

19. *Bio-Tech Teaching Modules* - Various Media. American Institute of Biological Sciences, 3900 Wisconsin Avenue, N.W., Washington, D. C. 20016.

20. *Bus and Truck Terminal: Who Works There.* Filmstrip. Intermediate High School Level. Bailey Film Association, 11559 Santa Monica Boulevard, Los Angeles, California 90025; 1969; $13.25.

21. *The Bus Driver.* Encyclopedia Britannica Films, 1150 Wilmette Avenue, Wilmette, Illinois; 10 minutes.

22. *Bus and Truck Terminal: What You'd See There.* Filmstrip. Intermediate High School Level. Bailey Film Association, 11559 Sana Monica Boulevard, Los Angeles, California 90025; 1969; $13.25.

23. *Business Machine Operations.* Mountain Plains Educational Media Council, University of Colorado, Bureau of Audio-Visual Instruction, Boulder, Colorado 80302; 7 minutes.

24. *By Land, Sea and Air.* Stevan H. Wodka, Antioch College, Yellow Springs, Ohio; 31 minutes; 16mm.

25. *Career Opportunity in Highway Safety.* Filmstrip, 226 frames. Highway Users Federation for Safety and Mobility, Highway Safety Division, 1776 Massachusetts Avenue, N.W., Washington, D. C. 20036; 35 minutes. Filmstrip and 34 minute cassette tape narration, $14.00.

26. *Careers: Clerical.* Syracuse University, Film Rental Library, 1455 East Calvin Street, Syracuse, New York 13210; 9 minutes.

27. *Careers In Business.* National Career Center, 3839 White Plains Road, Bronx, New York 10467; 13 minutes.

28. *Careers In Computers and Data Processing.* Control Data Corporation, 8100 34th Avenue South, Minneapolis, Minnesota 55420; 15 minutes.

29. *Career Opportunities in Highway Safety.* Highway Users Federation for Safety and Mobility, 1776 Massachusetts Ave., N.W., Washington, D. C. 20036; 34 minutes; 35mm filmstrip and cassette tape program.

30. *Careers in Transportation.* American Personnel and Guidance Association, 1607 New Hampshire Ave., N.W., Washington, D.C. 20009; 24 minutes; 16mm.

31. *Cities in Crisis - Transportation.* Universal Education and Visual Arts, 221 Park Avenue, South, New York, New York 10003; 18 minutes; 16mm.

32. *Cities - The Rise of New Towns.* National Educational Television, Indiana University, Bloomington, Indiana 47401; 2 parts - 30 minutes each; 16mm.

33. *Civil Engineer-Maintenance Safety.* (FTA 532) Department of the Air Force, Air Force Film Library Center, 8900 South Broadway, St. Louis, Missouri 63125; 1961; 10 minutes.

34. *Combustion: An Introduction to Chemical Change.* General Motors Corporation, 3044 West Grand Boulevard, Detroit, Michigan 48202; 16 minutes; 16mm.

35. *The Computer at Work.* General Electric Educational Films, 60 Washington Avenue, Schenectady, New York 12305; 1970; 12 minutes; 16mm.

36. *Computer Comes to Marketing.* Data Processing Management Assoc., 505 Busse Avenue, Park Ridge, Illinois 60068.

37. *The Computer Revolution.* BFA Educational Media, 2211 Michigan Avenue, Santa Monica, California 90404; 1968; 24 minutes; 16mm.

38. *Conduct of a Nuclear Safety Survey.* (TFI-5429) Department of the Air Force, Air Force Film Library Center, 8900 South Broadway, St. Louis, Missouri 63125; 1961; 30 minutes; 16mm.

39. *Developments of Transportation.* Indiana University, Bloomington, Indiana 47401; 11 minutes; 16mm.

40. *Driving the Semi-Trailer.* National Audiovisual Center, Washington, D. C. 20409; 19 minutes; 16mm.

41. *Essentials of Drafting.* Aims Instructional Media Service, P. O. Box 1010, Hollywood, California 90028; 1970; Film I - 11 minutes; 16mm. Film II - 7 minutes; 16mm.

42. *Firefighting Aboard Tankers.* United States Coast Guard, Chief, Public Information Division, Coast Guard Headquarters, Washington, D. C. 20591; 28 minutes; 16mm.

43. *Freight Train.* University of Illinois, Urbana, Illinois 61801; 1954; 11 minutes; 16mm.

44. *From the Ground Up.* Federal Aviation Administration Film Library, P. O. Box 25802; Oklahoma City, Oklahoma 73125; 27 minutes; 16mm.

45. *From Tanker to Fueler.* University of Illinois, Urbana, Illinois 61801; 1967; 18 minutes; 16mm.

46. *Gasoline Age: History of Transportation.* Indiana University, Bloomington, Indiana 47401; 14 minutes; 16mm.

47. *Helicopter.* Indiana University, Bloomington, Indiana 47401; 11 minutes; 16mm.

48. *Highways Are For People.* National Audiovisual Center, Washington, D. C. 20409; 27 minutes; 16mm.

49. *History of Road Transport, Part I, Early Times to 18th Century.* Filmstrip. Intermediate College Level. Carman Education Association, Inc., Box #205, Youngstown, New York 14174; 1969; $4.50.

50. *History of Road Transport, Part II, Turnpike and the Coaching Age.* Filmstrip. Intermediate College Level. Carman Education Association, Inc., Box #205, Youngstown, New York 14174; 1969; $4.50.

51. *In These Hands.* FA-123. 23 minutes. The role of electronic maintenance and the workers involved. Semi-technical.

52. *Inland Waterways in the Development of American Transportation.* University of Illinois, Urbana, Illinois 61801; 16 minutes; 16mm.

53. *Investigation of a Claim.* (TR 15-2999) Military District of Washington, Central Film and Equipment Exchange, Fort Meyer, Virginia 22211; 1961; 35 minutes; 16mm.

54. *Jobs and Advancement - On the Move.* McGraw-Hill Textfilm, 330 West 42nd Street, New York, New York 10036; 1969; 13 minutes; 16mm.

55. *Jobs and Continuing Education.* McGraw-Hill Textfilm, 330 West 42nd Street, New York, New York 10036; 1969; 12 minutes; 16mm.

56. *The Long Haul Men.* University of Illinois, Urbana, Illinois 61801; 1969; 18 minutes; 16mm.

57. *Long Ships Passing.* Lake Carriers' Association, 1411 Rockefeller Building, Cleveland, Ohio 44113; 1967; 32 minutes; 16mm.

58. *Looking Ahead To A Career.* Filmstrips/Slide Presentations. U. S. Department of Labor, Washington, D. C. Available as either a filmstrip or set of 35mm slides with an accompanying narrative. Set consists of 36 frames and is available from any regional office of the Department of Labor. Cost of the filmstrip set is $5.00 and $10.00 for the slide set.

59. *Mainline, U.S.A.* University of Illinois, Urbana, Illinois 61801; 1957; 20 minutes; 16mm.

60. *Man In Flight*. University of Illinois, Urbana, Illinois 61801; 1958; 31 minutes; 16mm.

61. *Management By Objectives*. BNA Films, Division of the Bureau of National Affairs, Inc., 5615 Fishers Lane, Rockville, Maryland 20852. Rental Charge: $50.00 per week per film. Purchase Price: $350.00 per print.

62. *Marketing As A Career*. CCM Films, 866 Third Avenue, New York, New York 10022.

63. *Mass Transit: Up, Up and Away*. Document Associates, 573 Church Street, Toronto 285, Ontario, Canada; 22 minutes; 16mm.

64. *The Masters*. 12 minutes. Association Films. Shows maintenance of jet airliners, the mechanics at work, and their methods and tools.

65. *Merchant Marine Safety*. United States Coast Guard, Chief, Public Information Division, Coast Guard Headquarters, Washington, D. C. 20591; 1960; 28 minutes; 16mm.

66. *Montage of Marketing*. University of Wisconsin, Bureau of Audio Visual Instruction, Audio Visual Center, LaCrosse, Wisconsin 54601.

67. *The New Breed*. Sales-Development Department, Japan Air Lines, Ltd., 240 Stockton Street, San Francisco, California 94108; (Loan Basis) 16mm.

68. *The Operator and His Job*. U. S. Office of Education, Washington, D. C. 20202; 12 minutes; 16mm.

69. *Railroads and The Clothes We Wear*. 23 frames, free filmstrip. Association of American Railroads, School and College Service, Transportation Building, Washington, D. C. 20006.

70. *Railroads Are People, Too*. Primary Intermediate Level. Coronet Instructional Films, 65 East South Water Street, Coronet Building, Chicago, Illinois 60601; 1970; $10.50.

71. *Railroads: End of the Line*. Indiana University, Bloomington, Indiana 47401; 58 minutes; 16mm.

72. *Ready For Flight*. Modern Talking Picture Association; 28 minutes; 16mm.

73. *Safety and Supervision.* Director of Safety, Office of the Secretary, Department of Commerce, Washington, D. C. 20230; 1961; FS-35 minutes; 16mm.

74. *Sails of Exploration.* University of Illinois, Urbana, Illinois 61801; 1966; 16 minutes; 16mm.

75. *Salesmanship.* Cassettes. Benjamin Bills and Associates, Glenview, Illinois.

76. *Ships: A First Film.* University of Illinois, Urbana, Illinois 61801; 1970; 11 minutes; 16mm.

77. *Technicians of Tomorrow.* U. S. Office of Education, 400 Maryland Avenue, S.W., Washington, D. C. 20202; 1966; 20 minutes; 16mm.

78. *They Steamed To Glory: Famous Locomotives and the Pioneer Development of America.* University of Illinois, Urbana, Illinois 61801; 1961; 22 minutes; 16mm.

79. *To Market, To Market.* Frith Films, Box 424, 1275 Lincoln Avenue, Carmel Valley, California 93924; 16mm.

80. *Transportation.* Southwest College, Learning Resource Center, 7500 S. Pulaski, Chicago, Illinois 60652; 30 minutes; 16mm.

81. *Transportation.* National Audiovisual Center, Washington, D. C. 20409; 1966; 22 minutes; 16mm.

82. *Transportation Around the World.* University of Illinois, Urbana, Illinois 61801; 1969; 10 minutes; 16mm.

83. *Transportation By Air.* University of Illinois, Urbana, Illinois 61801; 1958; 15 minutes; 16mm.

84. *Transportation By Freight Train.* Indiana University, Bloomington, Indiana 47401; 10 minutes; 16mm.

85. *Transportation By Land.* University of Illinois, Urbana, Illinois 61801; 1957; 11 minutes; 16mm.

86. *Transportation By Water.* Indiana University, Bloomington, Indiana 47401; 15 minutes; 16mm.

87. *Transportation: Footpath To Air Lanes.* University of Illinois, Urbana, Illinois 61801; 1965; 16 minutes; 16mm.

88. *Transportation In Eastern Europe.* Intermediate High School Level. Doubleday Multimedia, 1370 Reynolds Avenue, Santa Ana, California 92705; 1969; 4 minutes; $19.50; S-8mm.

89. *Transportation In Middle America.* Intermediate High School Level. Doubleday Multimedia, 1370 Reynolds Avenue, Santa Ana, California 92705; 1969; 4 minutes; $19.50; S-8mm.

90. *Transportation Underground - The Story of a Pipeline.* Indiana University, Bloomington, Indiana 47401; 27 minutes; 16mm.

91. *Transportation, U.S.A.* New York Times Office of Educational Activities, New York, New York 10036; 1964; (filmstrip - 53 frames); 35mm.

92. *Truck Transport - On the Long Haul.* University of Illinois, Urbana, Illinois 61801; 1954; 11 minutes; 16mm.

93. *Vehicle Emissions Control Story.* Automobile Manufacturers Association, Detroit, Michigan; 4 reels, 25 minutes each; 16mm.

94. *Waterways.* National Audiovisual Center, Washington, D. C. 20409; 16mm.

95. *Weather Series.* pp. 115-6, 1969 catalog, U. S. Government Films. National Audiovisual Center, Washington, D. C. 20409; 16mm.

96. *Your Driving Habits.* National Audiovisual Center, Washington, D. C. 20409; 15 minutes; 16mm.

PERIODICALS

Upon request most of these publications will send sample copies to schools or teachers:

1. *Alphian.* 4786 S. W. Elm Lane, Portland, Oregon 97721; Monthly.

   The publication of Delta Nu Alpha Transportation Fraternity. It is for transportation management officials throughout the country.

2. *Airport World.* 109 East 36th Street, New York, N.Y. 10016; Monthly.

   Directed toward major airport operators, air carriers, caterers, ground support crews — in fact, all airport users except passengers.

3. *Air Transport World.* 333 Shoreham Building, Washington, D. C. 20005; Monthly.

   This is intended to interest air transport operators, airline management, and airport management.

4. *Air Travel Magazine.* 211 East 43rd Street, New York, N.Y. 10017; Monthly.

   Magazine for travel agents, corporate traffic managers and airline sales personnel.

5. *Automotive Fleet.* 1155 Waukegan Road, Glenview, Illinois 60035; Monthly.

Aimed at automotive fleet managers. It is concerned with commercial, leased and rental fleets.

6. *Automotive News*. 965 Jefferson, Detroit, Michigan 48207; Weekly.

   Specializes in the automobile markets and the concerns of new and used car dealers.

7. *Bell Helicopter News*. P. O. Box 482, Fort Worth, Texas 79901; Bi-weekly.

   This features brief articles relating to helicopters at work.

8. *Better Driving*. Employers Insurance of Wausau, 2000 Westwood Drive, Wausau, Wisconsin 54401; Quarterly.

   Journal for motorists and professional drivers. It features a wide range of articles oriented toward better driving and motor safety.

9. *Business on Wheels*. 2000 York Road, Oak Brook, Hinsdale, Illinois 60523; Quarterly.

   Distributed to owners and operators of truck fleets, both common-carrier trucking systems and trucks used in connection with businesses of various types.

10. *Career Education Communicator*. National Center for Occupational Education, Box 5096, Raleigh, North Carolina 27607; Quarterly.

11. *Career Education News*. McGraw-Hill Institutional Publications, 230 West Monroe Street, Chicago, Illinois 60606; Bi-Monthly.

12. *Cars & Trucks*. 2000 K Street, N.W., Washington, D. C. 20006; Monthly.

    The official publication of the National Automobile Dealers Association. It focuses on management, sales, merchandising and service operations with new car and truck dealerships.

13. *Commercial Car Journal*. 56th & Chestnut Streets, Philadelphia, Pennsylvania 19139; Monthly.

14. *Current Literature in Traffic and Transportation*. Transportation Center Library, Northwestern University, 1810 Hinman Avenue, Evanston, Illinois 60204; Monthly.

Lists currently available books, periodicals, films, etc. with prices, availability and publishers' names and addresses. This library also lends materials to schools and has a copy service.

15. *FWD News*. c/o FWD Corporation, Clintonville, Wisconsin 54929; Quarterly.

    This is for users of heavy-duty all-wheel trucks.

16. *Imperial Oil Fleet News*. 111 St. Claire Avenue, Toronto 195, Ontario, Canada; Quarterly.

    Issued to seamen of Imperial Oil tankers and deals with various aspects of this company's tanker fleet.

17. *Interline Reporter*. 2 West 46th Street, New York, N.Y. 10036; Monthly.

    This magazine publishes non-technical articles on airline activities. The publication is slanted to sales, reservations and counter personnel.

18. *Modern Bulk Transporter*. 4801 Montgomery Lane, Washington, D. C. 20014; Monthly.

    Deals exclusively with the tank truck industry but covers it very thoroughly.

19. *Open Road*. 1051 Florence Street, Fort Worth, Texas 76102; Monthly.

    This is a publication for the professional over-the-road truck drivers of this country.

20. *Refrigerated Transporter*. 1602 Harold Street, Houston, Texas 77006; Monthly.

    Features articles on the maintenance of vehicles, especially refrigerated vans and refrigerating units; the loading or handling of frozen or refrigerated cargo; and new equipment in refrigerated transportation.

21. *Road Ahead*. Peterson, Howell & Heather, Inc., 2701 N. Charles St., Baltimore, Maryland 21218; Monthly.

    This focuses on automobile maintenance, automobile fleet leasing, and safe driving.

22. *Rotor and Wing*. News Plaza, Peoria, Illinois 61601; Monthly.

Features stories on the commercial use of STOL craft and helicopters.

23. *Sikorsky News*. Stratford, Connecticut 06602; Monthly.

This features articles on both the commercial and military use of helicopters.

24. *Southern Motor Cargo Magazine*. P. O. Box 4169, Memphis, Tennessee 38104; Monthly.

For trucking management and maintenance personnel of private, contract and for-hire carriers in 16 southern states and the District of Columbia.

25. *Tigerview*. c/o Flying Tiger Line, 7401 World Way West, Los Angeles, California 90009; Monthly.

This deals with literally every aspect of the airfreight industry.

26. *Traffic World*. Traffic Service Corporation, 815 Washington Building, Washington, D. C. 20005; Weekly.

27. *Transport Topics*. American Trucking Association, Inc., 1616 P Street, N.W., Washington, D. C. 20036; Weekly.

This newsmagazine deals with the motor carrier industry. It includes articles dealing with matters both technical and legislative. Also included is a classified advertising section which lists employment opportunities and situations wanted.

28. *Transportation & Distribution Management*. 815 Washington Building, Washington, D. C. 20005; Monthly.

Features articles dealing with new equipment, management innovations, computer applications, and other aspects of transportation and physical distribution management.

29. *Truck Transportation*. 203 Adelaide Street West, Toronto 1, Canada; Monthly.

This is a news magazine for companies engaged in heavy trucking and the operation of truck fleets.

30. *U. S. Transport.* 5611 Columbua Pike, Falls Church, Virginia 22041; Monthly.

A tabloid which deals with literally every aspect of transportation news, whether within a specific mode or of across-the-board interest.

31. *Vickers Voice.* P. O. Box 2240, Wichita, Knasas 67201; Monthly.

Specializes in the fields of service station ownership and managership.